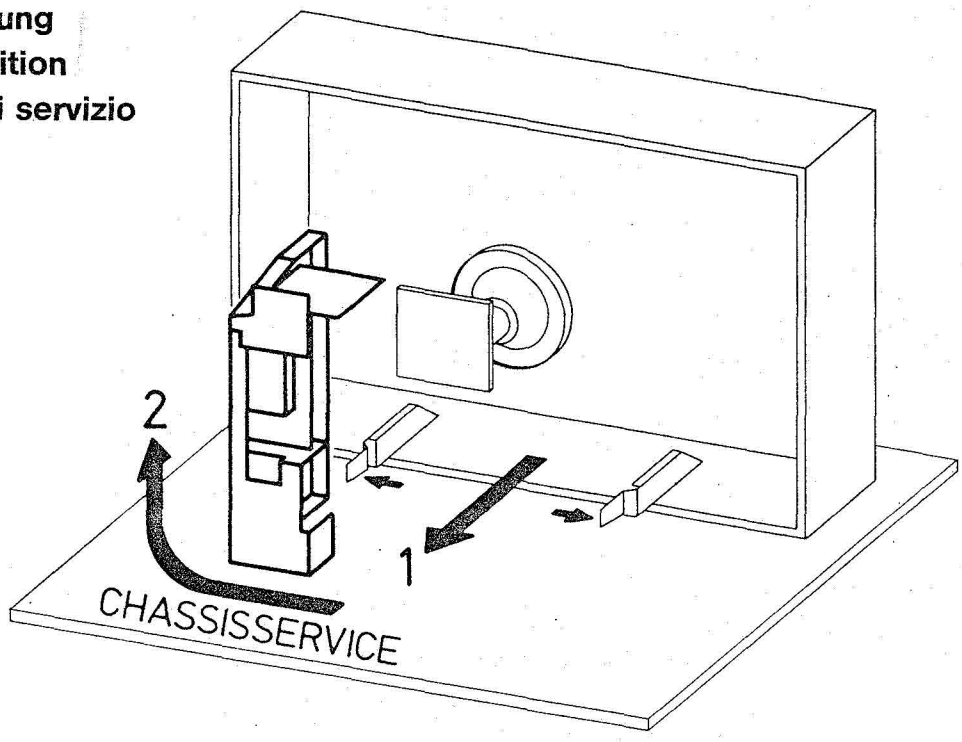
Servicestellung
Service position
Posizione di servizio



GRUNDIG

TV

Ⓓ Btx * 32700 #

SERVICE MANUAL
CUC 3400

(9.25507-01)
(9.25495-01)
(9.25495-02)

Ⓓ SERVICEHINWEISE — Seite

Service am I²C-Bus und Fehlerarten des Gesamtgerätes. — 3–4
Funktions- und Servicehinweise des Zeilennetzteils. — 5
Abgleichhinweise der Steckkartenarten.

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Functional description and service information on the line mains supply unit. — 5
Alignment notes of the plug-in board types.

Ⓘ AVVERTENZA DI SERVIZIO — Pagina

Servizio assistenza al bus I²C e tipi di errori dell'intero apparecchio. — 3–4
Istruzioni per il funzionamento e per il Servizio assistenza dell'alimentatore di riga. — 5
Avvertenze di taratura dei tipi di scheda.

Service Manual CUC 3400 Sach.-Nr. 72010-002.20
Service Manual CUC 3400 Order-No. 72010-002.20

Notizen :

Service am I^2C-Bus

Bei Fehlfunktionen des Gerätes, die nicht auf Netzteil, Hochspannung und Ablenkung zurückzuführen sind, ist der I^2C-Bus gemäß Tabelle 1 zu püfen, bevor weitere Servicearbeiten nach Tabelle 2 durchgeführt werden.

Der µComputer in der Bedieneinheit IC 811 liefert Steuerbefehle für Tuner, Videotext und T 111 (zur EURO-AV-BUCHSE) über den I^2C Bus.

Hinweis:

Bei Modulwechsel ist das Gerät generell auszuschalten!

Auch in Stellung »Bereitschaft« darf kein Modul gezogen werden! MOS-handling beachten.

Tablle 1

Messung	Meßwert	Meßpunkt	Mögliche Fehler
+H	5V	Pin 40, IC 811	D 691, IC 686, IC 811
4 MHz Takt Reset	4 MHz, $3V_{ss}$ $4V_{ss}$ nur im Einschaltmoment	Pin 22, IC 811 Pin 23	F 811, IC 811 C 806, IC 811
I^2C Bus	$5V_{ss}$	Pin 10, 37, IC 811	Die I^2C-Bus-Daten sind auch ohne TP-Bedienung oder Keyboardeingabe vorhanden. Bei fehlenden Daten: Die Leitungen SDA und SLC auftrennen. Sind dann die I^2C-Bus-Daten vorhanden, liegt eine Überlastung des I^2C-Bus vor. **Fehlerursache:** Tuner, Videotext, T 111

Tabelle 2

Mögliche Fehlerarten des Gesamtgerätes

Fehler	Mögliche Ursache	Meßwert	Meßwert
Keine Frequenzabstimmung	Tuner (Speicher, PLL)	+0,2 – 30V	Pin 13, 15
	+B'	+12V	Tuner Pin 16
	+H	+ 5V	Tuner Pin 2
	(M)	ca +4,5V	Tuner Pin 1
Keine Bedienfunktion	+H, IC 811	+ 5V	IC 811 Pin 40
LED falsche Anzeige	IC 811		
	F 808	4 MHz, 3V	IC 811 Pin 22
Nur Raster	ZF/SYNC.	SSC (29), (30)	ZF/SYNC. Pin 23
	Farb/RGB	SSC (29), (30)	Farb/RGB Pin 6
Kein FBAS-Signal	Tuner (nicht bei CUC 3300)	ca. 10V	Tuner Pin 3
	ZF/SYNC. (nicht bei CUC 3300)	ca. 10V	ZF/SYNC. Pin 12
	+B'	+12V	ZF/SYNC. Pin 24
	+B	+12V	ZF/SYNC. Pin 25
Kein Ton	ZF/SYNC.	Analogspannung ca. 0,5V-5V	ZF/SYNC. Pin 17
	Keine Koinzidenzkennung (ZF/SYNC.)	> 4V	IC 811 Pin 19
	IC 365	+M/ca. 18V	IC 365 Pin 2
Keine Programmumschaltung mit TP (nicht bei CUC 3300)	IR-Vorverstärker	IR-Signal $5V_{ss}$	IC 811 Pin 3
Keine Analogwerte für Helligkeit Kontrast Farbkontrast	 IC 811, C 843 IC 811, C 833 IC 811, C 823	 1-3 V 2-4 V 2-4 V	 Farb/RGB Pin 10 Farb/RGB Pin 11 Farb/RGB Pin 12
Beim Einschalten mit der Netztaste schaltet das Gerät auf Bereitschaft (nicht bei CUC 3300)	T 801	beim Einschalten kurzzeitig »LOW«	IC 811 Pin 31

Service checks on the I^2C bus

If faults occur in the set which cannot be attributed to the power supply unit, the EHT or the deflection system, the I^2C bus should be checked using Table 1 before further service work is carried out using Table 2.

Via the I^2C bus the microcomputer in the control unit IC 811 supplies control signals for the tuner, videotext (teletext) and T 111 (to the EURO-AV-socket).

Note:

When a module is being changed, the set should be switched off completely. Modules must not be unplugged even in the "standby" mode! Observe MOS handling precautions.

Table 1

Test	Test Figures	Test Point	Possible faults
+H	5V	Pin 40, IC 811	D 691, IC 686, IC 811
4 MHz clock Reset	4 MHz, $3V_{pp}$ $4V_{pp}$ only at moment of switch on	Pin 22, IC 811 Pin 23	F 811, IC 811 C 806, IC 811
I^2C bus	$5V_{pp}$	Pin 10, 37, IC 811	The I^2C bus data are present even without input from the remote control or keyboard. If data are absent disconnect the SDA and SLC lines. If data are then present on the I^2C bus, the I^2C bus is overloaded. Possible faults: Tuner, teletext, T 111

Table 2

Possible faults which can occur in any part of the set.

Fault	Possible Cause	Test Figure	Test Point
No frequency tuning	Tuner (memory, PLL)	+0.2 – 30V	Pin 13, 15
	+B'	+12V	Tuner, pin 16
	+H	+ 5V	Tuner, pin 2
	(M)	+4.5V approx.	Tuner, pin 1
No functions accepted	+H, IC 811	+ 5V	IC 811, pin 40
Incorrect LED indication	IC 811		
	F 808	4 MHz, 3V	IC 811, pin 22
Raster only	IF/sync	SSC (29), (30)	IF/sync, pin 23
	Colour/RGB	SSC (29), (30)	Colour/RGB, pin 6
No CCVS	Tuner (not on CUC 3300)	10V approx.	Tuner, pin 3
	IF/sync. (not on CUC 3300)	10V approx.	IF/sync, pin 12
	+B'	+12V	IF/sync, pin 24
	+B	+12V	IF/sync, pin 25
No sound	IF/sync	Analog voltage 0.5-5V approx.	IF/sync, pin 17
	No coincidence identification (IF/sync)	> 4V	IC 811, pin 19
	IC 365	+M/about 18V	IC 365, pin 2
Programme cannot be change with remote control (not on CUC 3300)	IR-preamplifier	IR-signal $5V_{pp}$	IC 811, pin 3
No analog signals for Brightness Contrast Colour contrast	 IC 811, C 843 IC 811, C 833 IC 811, C 823	 1-3 V 2-4 V 2-4 V	 Colour/RGB, pin 10 Colour/RGB, pin 11 Colour/RGB, pin 12
Set switches to standby mode on operation of power button (not on CUC 3300)	T 801	Short-time "LOW" on switch-on	IC 811, pin 31

Servizio per I^2C-Bus

Se l'apparecchio funziona erroneamente e ciò non dipende nè dall'alimentatore, nè dall'alta tensione o dalla deflessione, occorre controllare il bus I^2C secondo la tabella 1 prima di effettuare altri lavori di assistenza come da tabella 2.

Il microcomputer nell'unità di comando IC 811 fornisce le istruzioni per tuner, televideo e T 111 (alla presa EURO/SCART) attraverso il bus I^2C.

Nota:

Spegnere l'apparecchio durante la sostituzione di un modulo! Non togliere il modulo memmeno con apparecchio in posizione d'attesa! Fare attenzione alle norme MOS.

Tabella 1

Misura	Valore di misura	Punto di misura	Possibili guasti
+H	5V	Pin 40, IC 811	D 691, IC 686, IC 811
Cadenza 4 MHz Reset	4 MHz, $3V_{pp}$ $4V_{pp}$ solo all'atto dell'accensione	Pin 22, IC 811 Pin 23	F 811, IC 811 C 806, IC 811
Bus I^2C	$5V_{pp}$	Pin 10, 37, IC 811	I dati nel bus I^2C sono presenti anche senza comando da TP o immissione tramite tastiera. Se i dati mancano: interrompere le linee SDA e SLC. Se ora i dati sono presenti, nel bus I^2C c'è un sovraccarico. **Possibili cause del guasto:** tuner, televideo, T 111.

Tabella 2

Possibili guasti nell'apparecchio

Guasto	Possibile causa	Valore di misura	Punto di misura
Non è possibile sintonizzare la frequenza	Tuner (memoria, PLL)	+0,2 – 30V	Pin 13, 15
	+B'	+12V	Tuner Pin 16
	+H	+ 5V	Tuner Pin 2
	(M)	ca +4,5V	Tuner Pin 1
Nessuna funzione viene accettata	+H, IC 811	+ 5V	IC 811 Pin 40
Indicazione LED errata	IC 811		
	F 808	4 MHz, 3V	IC 811 Pin 22
Solo raster	FI/sinc.	SSC (29), (30)	FI/sinc. Pin 23
	Colore/RGB	SSC (29), (30)	Colore/RGB Pin 6
Manca il segnale FBAS	Tuner (non p. CUC 3300)	ca. 10V	Tuner Pin 3
	FI/sinc. (non p. CUC 3300)	ca. 10V	FI/sinc. Pin 12
	+B'	+12V	FI/sinc. Pin 24
	+B	+12V	FI/sinc. Pin 25
Manca l'audio	FI/sinc.	Tensione analogica ca. 0,5V-5V	FI/sinc. Pin 17
	Nessun riconoscimento di coincidenza (FI/sinc.)	4V	IC 811 Pin 19
	IC 365	+M/ca. 18V	IC 365 Pin 2
Non viene commutato il programma con TP (non per CUC 3000)	Preamplif. IR	Segnale IR $5V_{pp}$	IC 811 Pin 3
Manca il valore analogico per luminosità contrasto contrasto colore	 IC 811, C 843 IC 811, C 833 IC 811, C 823	 1-3 V 2-4 V 2-4 V	 Colore/RGB Pin 10 Colore/RGB Pin 11 Colore/RGB Pin 12
Accendendo con tasto rete l'apparecchio commuta in posizione d'attesa (non p. CUC 3300)	T 801	All'atto dell'accensione brevemente «LOW»	IC 811 Pin 31

(D) **1. Funktionshinweise ZE**

Beim Zeilen-Netz-Teil (ZNT) hand
nur einer Netztrennstelle im ZNT-
nen einfachen Stand By-Betrieb

Einschaltvorgang über Netztas

Der T 661 liegt über die Primärseit
steuert durch IC 655 (PIN 15) erz
Sobald IC 811 eingeschwungen i
wird periodisch angesteuert und
geleitet. Die lastabhängige Nachs
versorgung.
Bei Stand by (Bereitschaft) wird
schaltvorgang voll durch. Dies en
Stand by.
Bei Stand by übernimmt nur PIN

2. Service-Hinweise für ZEILE

Gerät mit Netztrenntransformato
Bei Fehlfunktionen des Zeilen-N
1. Kollektor/Emitter T 521 übert
2. Anlaufspannung über R 641 F
3. Startspannung über D 647 Pi
4. Referenzspannung Pin 17 IC
5. Oszillatorfrequenz Pin 15 IC 6
6. +M = *ca.* 11 V (*stand by*)
   +H = 5V
7. +C = < 12V
   +B = < 2V (undefiniert b
8. C 626 muß vor Wechsel des
9. Netzteil-Regelbereich: 140-

(GB) **1. Short Description of t**

The line mains supply unit (ZNT)
and just one mains isolating poin
load variations and easy stand-

Process on operation of powe

T 661 is connected to the mains v
rhythm produced by IC 655 (pin 1
the transient response time of IC
T 521 is now subject to cyclical c
normal operation is initiated. The
used for power supply.
In the stand-by mode, pin 6 of IC
the case on switch-on. This is equ
at pin 12.
In the stand-by mode, only pin

2. Service Instructions for Lin

Operate the unit via the mains is
Troubleshooting in case of line
1. Bypass collector/emitter T 52
2. Initial voltage via R 641, pin 1
3. Starting voltage via D 647, pi
4. Reference voltage, pin 17, IC
5. Oscillator frequency, pin 15,
6. +M = 11 V approx. (stand-b
   +H = 5V
7. +C = < 12 V
   +B = < 12 V (not defined
8. Be sure to discharge C 626 b
9. Mains unit range of adjustme

(I) **1. Breve descrizione del**

L'alimentatore di riga (ZNT) è un
nato ed un solo punto di separazi
variazioni del carico ed un semp

Accensione con l'interruttore

T 661 è collegato alla tensione di
comando di IC 655 (pin 15), gen
Quando IC 811 è attivo, attravers
ora comandato periodicamente
l'integrato IC 655 da funzionamen
viene effettuata dalla tensione d
In stand-by (posizione d'attesa),
sto modo T 521 conduce comple
di trigger mancanti al pin 12, IC
Questa situazione prevede che

2. *Istruzioni di servizio per l'a*

Alimentare l'apparecchio con ur
Se l'alimentatore di riga funzion
1. Cortocircuitare collettore/em
2. Tensione di avviamento, tra
3. Tensione di start.
4. Tensione di riferimento, pin
5. Frequenza dell'oscillatore, p
6. +M = ca. 11 V (stand-by)
   +H = 5V
7. +C = < 12 V (indefinito in
   +B = < 2 V
8. C 626 deve essere scarico
8. Campo di regolazione dell'a

(D) 1. Funktionshinweise ZEILEN-NETZ-TEIL

Beim Zeilen-Netz-Teil (ZNT) handelt es sich um ein neuartiges, synchronisiertes Schaltnetzteil mit kombinierter Horizontal-Endstufenschaltung und nur einer Netztrennstelle im ZNT-Trafo (TR 665). Dieser ermöglicht durch die gewählte Wicklungsanordnung (Patent.) große Laständerungen und einen einfachen Stand By-Betrieb (Patent.) über den Ablenktransistor T521 bzw. das IC526.

Einschaltvorgang über Netztaste

Der T661 liegt über die Primärseite des Trafos TR665 und D621 an Netzspannung und wird im Zeilenrhythmus geschaltet. Dieser Zeilenrhythmus gesteuert durch IC655 (PIN15) erzeugt auf der Sekundärseite die Spannung +M (+B, +H) für die Kleinsignalversorgung und das IC526.

Sobald IC811 eingeschwungen ist wird über T861 das Einschaltsignal (H-Pegel) an das IC526 (PIN6) gegeben. Der vorher ständig leitende T521 wird periodisch angesteuert und gibt Triggerimpulse an den Synchron-Eingang von IC655 (PIN12). Dort wird der Hochlauf in den Normalbetrieb eingeleitet. Die lastabhängige Nachsteuerung zur Stabilisierung des Netzteils übernimmt die Referenzspannung an PIN10, PIN2 dient zur Spannungsversorgung.

Bei Stand by (Bereitschaft) wird über IC811 der PIN6 des IC526 auf low gesetzt. PIN1 des IC526 wird konstant high und steuert T521 wie beim Einschaltvorgang voll durch. Dies entspricht einem Kurzschluß des Zeilenkreises und über die fehlenden Triggerimpulse an PIN 12 schaltet IC655 auf Stand by.

Bei Stand by übernimmt nur PIN2 die Regelung und Spannungsversorgung von IC655.

2. Service-Hinweise für ZEILEN-NETZ-TEIL

Gerät mit Netztrenntransformator betreiben. Primärseite des Zeilen-Netz-Teils liegt an Netzpotential!
Bei Fehlfunktionen des Zeilen-Netz-Teils nach folgendem Suchschema verfahren:

1. Kollektor/Emitter T 521 überbrücken (entspricht stand by)
2. Anlaufspannung über R641 Pin18 IC655 = ca. 13V
3. Startspannung über D647 Pin2 IC655 = 10,5V
4. Referenzspannung Pin 17 IC655 = 6V
5. Oszillatorfrequenz Pin15 IC655 = 2,5V_{SS}, 15,625 kHz
6. +M = ca. 11V (stand by)
   +H = 5V
7. +C = < 12V
   +B = < 2V (undefiniert bei stand by)
8. C626 muß vor Wechsel des IC655 entladen sein.
9. Netzteil-Regelbereich: 140-270V.

(GB) 1. Short Description of the Line Mains Supply Unit

The line mains supply unit (ZNT) is a newly designed and synchronized switch-mode mains supply unit with combined horizontal final-stage circuit and just one mains isolating point in the ZNT transformer (TR665). Due to the chosen arrangement of windings (patent) the transformer allows large load variations and easy stand-by operation (patent) via the deflecting transistor T521 or IC526

Process on operation of power button.

T661 is connected to the mains voltage via the primary side of transformer TR665 and D621 and is connected into the circuit in line rhythm. This line rhythm produced by IC655 (pin15) generates the +M (+B, +H) voltage at the secondary side for the supply of low-level signals and for IC526. After the transient response time of IC811 the switch-on signal (H level) is supplied via T861 to IC526 (pin6). The previously continuously conducting T521 is now subject to cyclical control and applies trigger pulses to the synchronous input of IC655 (pin12) where the necessary voltage increase for normal operation is initiated. The reference voltage at pin10 provides the load-dependent compensation for stabilizing the mains supply; pin2 is used for power supply.

In the stand-by mode, pin6 of IC526 is set to low via IC811. In this way, pin1 of IC526 is at a constant high and drives transistor T521 at full load as is the case on switch-on. This is equivalent to a short circuit of the line deflecting stage and IC655 switches to stand-by due to the lack of trigger pulses at pin12.

In the stand-by mode, only pin 2 provides the control and voltage supply from IC655.

2. Service Instructions for Line Mains Supply Unit

Operate the unit via the mains isolating transformer. The primary side of the Line Mains Supply Unit is connected to the mains potential!
Troubleshooting in case of line mains supply failures:

1. Bypass collector/emitter T521 (= stand by)
2. Initial voltage via R641, pin18, IC655 = 13V approx.
3. Starting voltage via D647, pin2, IC655 = 10.5V
4. Reference voltage, pin 17, IC655 = 6V
5. Oscillator frequency, pin15, IC655 = 2.5V_{pp}, 15,625 kHz
6. +M = 11 V approx. (stand-by)
   +H = 5V
7. +C = < 12 V
   +B = < 12 V (not defined in stand-by)
8. Be sure to discharge C626 before replacing IC655.
9. Mains unit range of adjustment: 140-270V

(I) 1. Breve descrizione dell'alimentatore di riga

L'alimentatore di riga (ZNT) è un alimentatore di commutazione sincronizzato di nuova concezione con un circuito di stadio finale orizzontale combinato ed un solo punto di separazione di rete nel trasformatore ZNT (TR665). Esso consente, grazie alla costruzione adottata per l'avvolgimento, grandi variazioni del carico ed un semplice funzionamento stand-by per mezzo di T521 di deflessione e risp.te di IC526.

Accensione con l'interruttore di rete

T661 è collegato alla tensione di rete attraverso il primario del trasformatore TR665 e D621 e viene commutato al ritmo delle righe. Questo ritmo, su comando di IC655 (pin15), genera sul secondario la tensione +M (+B, +H) per l'alimentazione di alcune sezioni circuitali e di IC526.

Quando IC811 è attivo, attraverso T861, il segnale di accensione (livello H) giunge a IC526 (pin6). T521, prima costantemente in conduzione, viene ora comandato periodicamente ed invia impulsi di trigger all'ingresso sincrono di IC655 (pin12). La presenza degli impulsi di trigger fa commutare l'integrato IC655 da funzionamento stand-by a funzionamento normale. La regolazione, in funzione del carico, per la stabilizzazione dell'alimentatore viene effettuata dalla tensione di riferimento al pin10. La tensione d'alimentazione è disponibile al pin2.

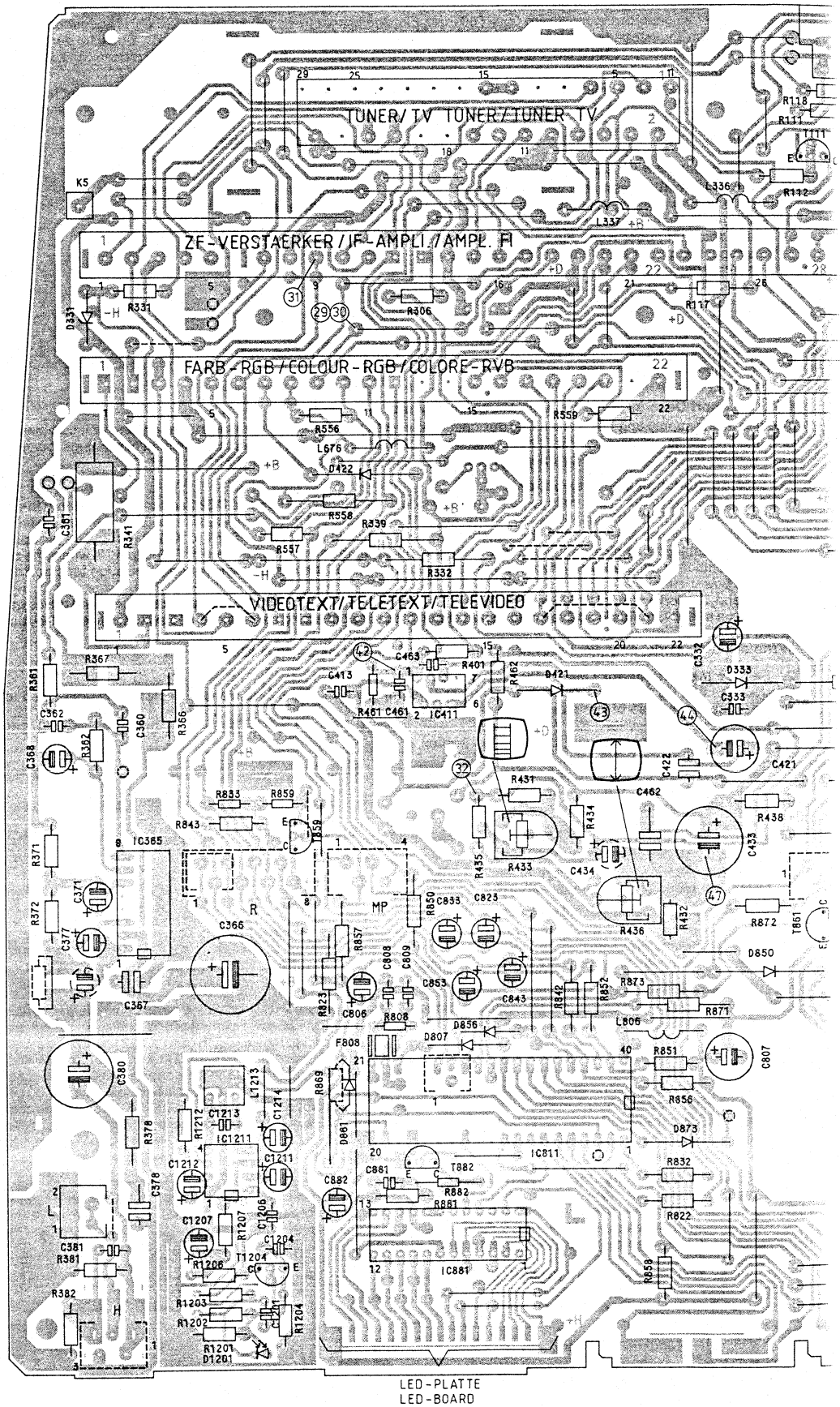
In stand-by (posizione d'attesa), tramite IC811, il pin6 di IC526 viene mandato a livello LOW. Il pin 1 di IC526 è invece costantemente su HIGH. In questo modo T521 conduce completamente come nel processo d'accensione. Ciò rappresenta un cortocircuito del circuito di riga e, tramite gli impulsi di trigger mancanti al pin12, IC655 commuta in stand-by.

Questa situazione prevede che solo sul pin2 sia presente la tensione di regolazione e di alimentazione di IC655.

2. Istruzioni di servizio per l'alimentatore di riga

Alimentare l'apparecchio con un trasformatore separatore di rete. Il lato primario dell'alimentatore è a potenziale di rete!
Se l'alimentatore di riga funziona erroneamente, ricercare il guasto nel seguente modo:

1. Cortocircuitare collettore/emettitore di T 521 (corrisponde a stand-by).
2. Tensione di avviamento, tramite R641, pin18IC655 = ca. 13V.
3. Tensione di start.
4. Tensione di riferimento, pin 17 IC655 = 6V.
5. Frequenza dell'oscillatore, pin15 IC655 = 2,5V_{pp}, 15,625kHz.
6. +M = ca. 11V (stand-by)
   +H = 5V
7. +C = < 12 V (indefinito in stand-by)
   +B = < 2 V
8. C 626 deve essere scarico prima di cambiare IC655.
8. Campo di regolazione dell'alimentatore: 140-270V.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ZF-VERSTAERKER/IF-AMPLI./AMPL. FI
FARB-RGB/COLOUR-RGB/COLORE-RVB
VIDEOTEXT/TELETEXT/TELEVIDEO
K5
R331
R306
R117
R118
R111
R112
L336
L337
D331
R556
R559
L676
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C1204
T1204
R1206
R1203
R1202
R1201
D1201
R1204
C381
R381
R382
LED-PLATTE
LED-BOARD
PIASTRA LED

EURO-AV-BUCHSE
EURO AV SOCKET
PRESA EURO AV

1 BR/1
3 BR/3
4 BR/4
5 BR/5
7 USG
R 718
BILDROHRPLATTE
CRT BASE
PIASTRA CINESC.

KASKADE
CASCADE
MOLTIPLICATORE
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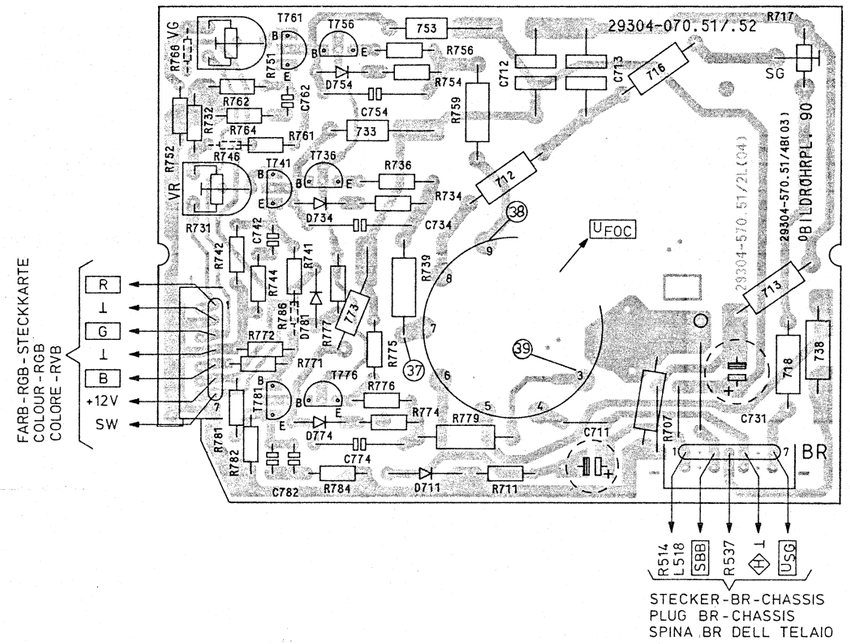
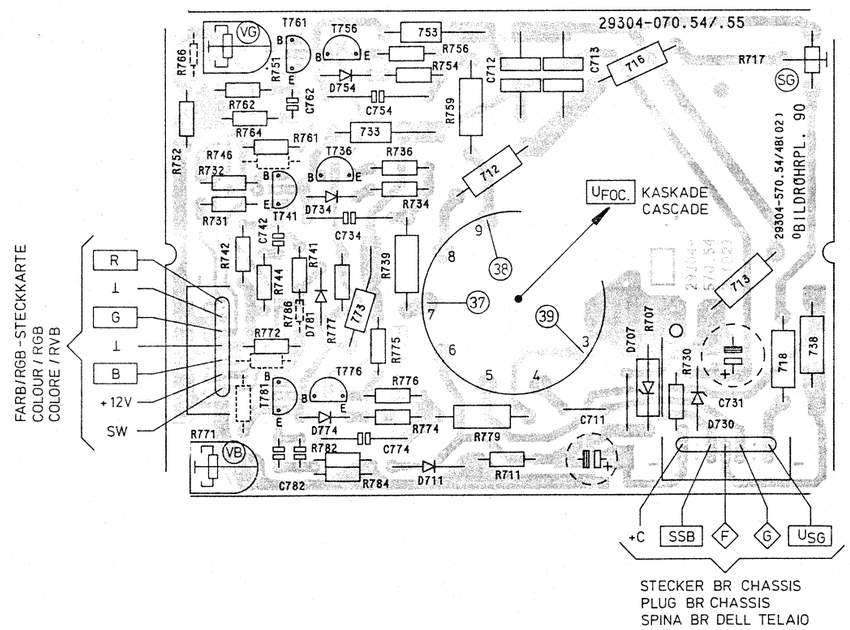
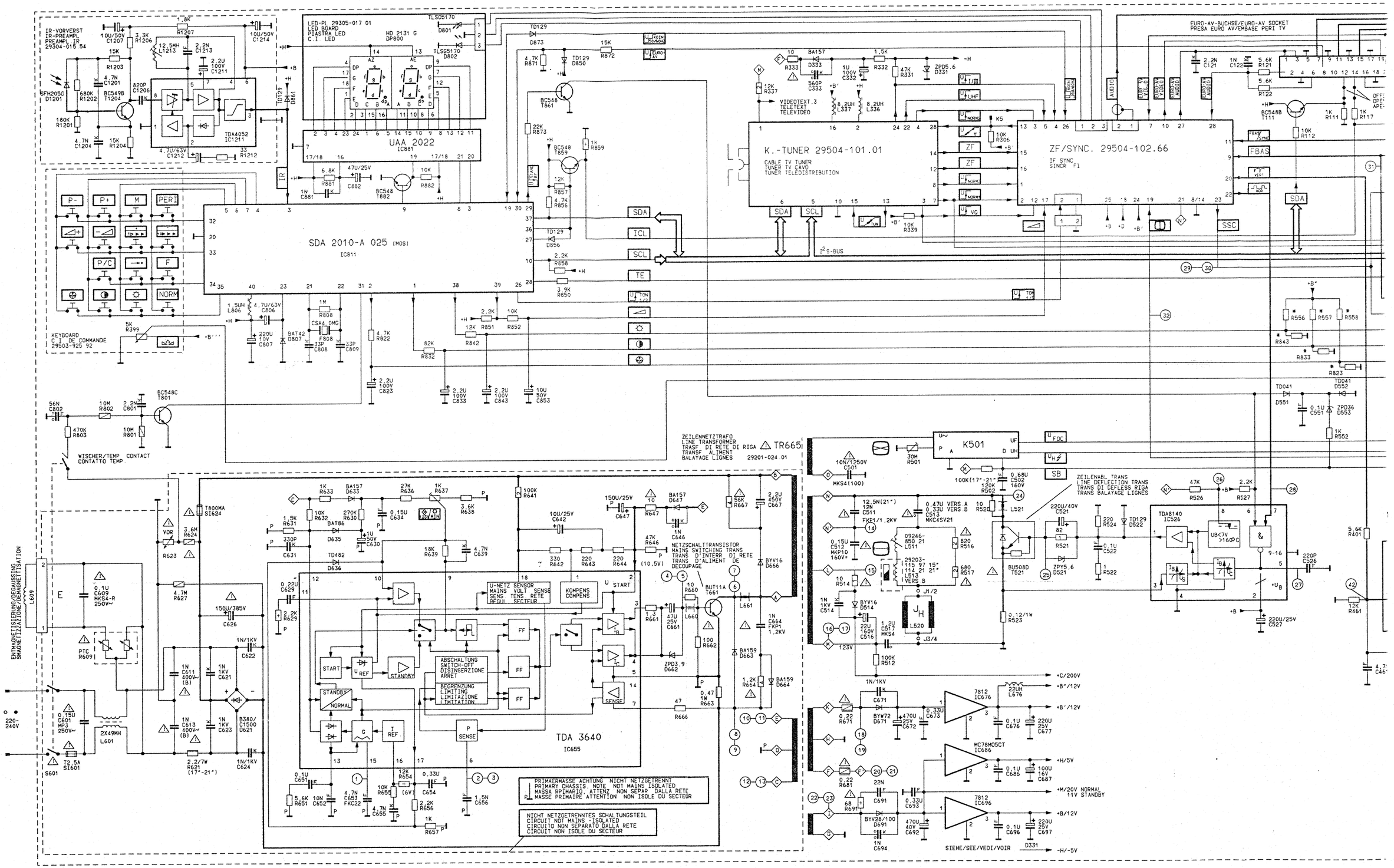
SMAGNETIZZAZIONE

BILDROHRPLATTE
CRT BASE
PIASTRA CINESC.



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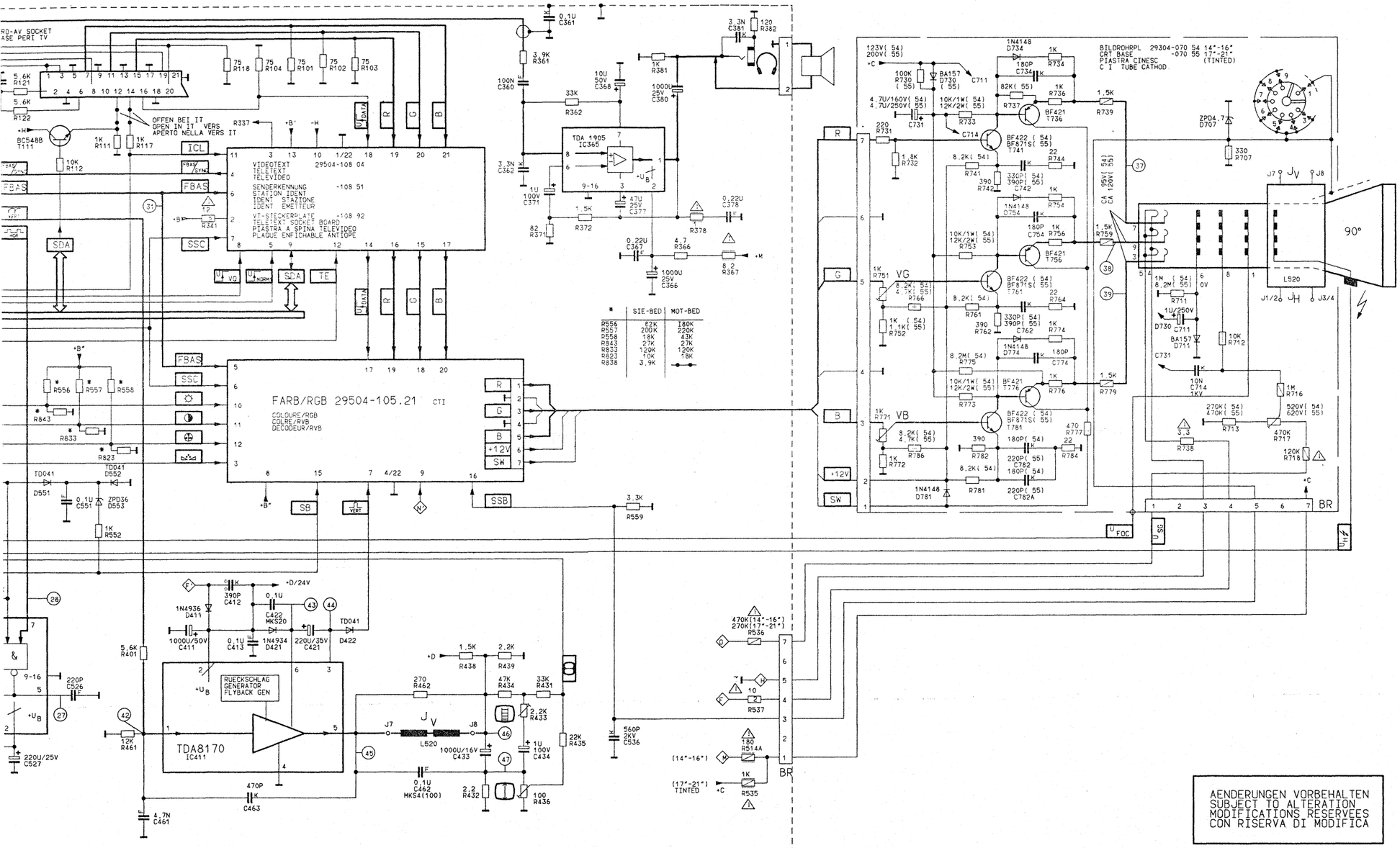
D1201
BC549B
T1204
TDA4052
IC1211
LED-PL 29305-017 01
LED BOARD
PIASTRA LED
C.I LED
HD 2131 G
DP800
TLSC5170
D801
TLSC5170
D802
UAA 2022
IC881
SDA 2010-A 025 (MOS)
IC811
P-
P+
M
PERI
P/C
F
NORM
KEYBOARD
C.I DE COMMANDE
29503-925 92
WISCHER/TEMP. CONTACT
CONTATTO TEMP.
BC548C
T801
T800MA
S1624
VDR
R623
EINMAGNETISIERUNG/DEGAUSSING
SMAGNETIZZAZIONE/DEMAGNETISATION
L609
PTC
R609
220-
240V
S601
T2.5A
S1601
2X49MH
L601
B380/
C1500
D621
TDA 3640
IC655
START
STANDBY
NORMAL
U REF
I REF
G
SENSE
P SENSE
FF
U-NETZ SENSOR
MAINS VOLT SENSE
SENS TENS RETE
REGUL SECTEUR
KOMPENS
COMPENS
U START
ABSCHALTUNG
SWITCH-OFF
DISINSERZIONE
ARRET
BEGRENZUNG
LIMITING
LIMITAZIONE
LIMITATION
PRIMAERMASSE ACHTUNG NICHT NETZGETRENNT
PRIMARY CHASSIS, NOTE NOT MAINS ISOLATED
MASSA RPIMARIO, ATTENZ NON SEPAR DALLA RETE
MASSE PRIMAIRE ATTENTION NON ISOLE DU SECTEUR
NICHT NETZGETRENNTES SCHALTUNGSTEIL
CIRCUIT NOT MAINS ISOLATED
CIRCUITO NON SEPARATO DALLA RETE
CIRCUIT NON ISOLE DU SECTEUR
K.-TUNER 29504-101.01
CABLE TV TUNER
TUNER TV CAVO
TUNER TELEDISTRIBUTION
ZF/SYNC. 29504-102.66
IF SYNC.
SINCR. FI
EURO-AV-BUCHSE/EURO-AV SOCKET
PRESA EURO AV/EMBASE PERI TV
VIDEOTEXT.3
TELETEXT
TELEVIDEO
I²C-BUS
SDA
SCL
ICL
TE
SSC
FBAS
ZEILENNETZTRAFO
LINE TRANSFORMER
TRASF. DI RETE DI RIGA
TRANSF. ALIMENT.
BALAYAGE LIGNES
TR665
29201-024.01
K501
ZEILENABL.TRANS
LINE DEFLECTION TRANS
TRANS DI DEFLESS RIGA
TRANS BALAYAGE LIGNES
TDA8140
IC526
SIEHE/SEE/VEDI/VOIR
D331
+C/200V
+B'/12V
+H/5V
+M/20V NORMAL
11V STANDBY
+B/12V
-H/-5V

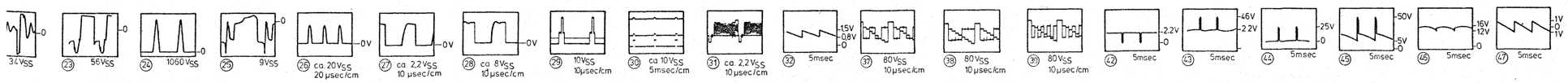


*	SIE-BED	MOT-BED
R556	82K	180K
R557	200K	220K
R558	18K	43K
R843	27K	27K
R833	120K	120K
R823	10K	18K
R838	3.9K	

Die mit S gekennzeichneten Oszillogramme sind im Standby-Betrieb aufgenommen.

The oszillogramms marked by S are shown in standby position.

Gli oscillogrammi contrassegnati con la »S« sono stati rilevati nella situazione di attesa.



Symbole und ihre Bedeutung
Symbols and their meaning
Simboli e loro significati

P	PROGR.
P1	PROGR. TASTE PROGR. BUTTON TASTO PROGR. TOUCHE PROGR. PULS. PROGR.
M	SPEICHERTASTE MEMORY BUTTON TASTO DI MEMORIA TOUCHE MEMOIRE PULS. MEMORIA
NORM	NORMTASTE TV STANDARD SELECT. BUTTON COMMUT. DI NORMA TOUCHE DE NORME PULS. DE NORMA
▷▷+	FEINABST. + FINE TUNING + SINT. FINE + REGLAGE FIN + SINT. FINA +
-◁◁	FEINABST.- FINE TUNING - SINT. FINE - REGLAGE FIN - SINT. FINA -
I	SUCHLAUF BD I SELF-SEEK BAND I SINT. AUTOM. BANDA I RECHERCHE AUTOM. BANDE I SINT. AUTOM. BANDA-I
III	SUCHLAUF BANDWAHL III SELF-SEEK BAND III SINT. AUTOM. BANDA III RECHERCHE AUTOM. BANDE III SINT. AUTOM. BANDA-III
UHF	SUCHLAUF UHF SELF-SEEK UHF SINT. AUTOM. UHF RECHERCHE AUTOM. UHF SINT. AUTOM. UHF
	LAUTSTAERKE VOLUME VOLUME SONORE VOLUMEN
FT	FEINABST. FINE TUNING SINT. FINE REGLAGE FIN SINT. FINA
C	KANALWAHL CHANNEL SEL. SELEZ. CANALE SELECT. DE CANAUX SELECCION CANAL
	BALANCE BILANCIAM. BALANCE BALANCE
	SUCHLAUF SELF-SEEK SINT. AUTOM. RECHERCHE AUTOM. SINTONIA AUTOMATICA
U I/III	SCHALTSP. BANDWAHL BAND SEL. SWITCHING VOLTAGE TENS. DI COMMUT. SELEZ. BANDA TENS. DE COMMUT. SELECT. BANDE TENS. CONMUT. SELEC. BANDA
U VHF	SCHALTSP. VHF SWITCHING VOLT. VHF TENS. DI COMMUT. VHF TENS. DE COMMUT. VHF TENS. CONMUT. VHF
U UHF	SCHALTSP. UHF SWITCHING VOLT. UHF TENS. DI COMMUT. UHF TENS. DE COMMUT. UHF TENS. CONMUT. UHF
U AFC	SCHALTSP. AFC SWITCHING VOLT. AFC TENS. DI COMMUT. AFC TENS. DE COMMUT. AFC TENS. CONMUT. CAF
U AV	SCHALTSP. AV AV SWITCHING VOLT. TENS. DI COMMUT. AV TENS. DE COMMUT. AV TENS. CONMUT. AV
U NORM	SCHALTSP. NORM SWITCHING VOLT. STANDARD TENS. DI COMMUT. NORMA TENS. DE COMMUT. STANDARD TENS. CONMUT. NORMA
U KOINZ. 50/60HZ	SCHALTSP. KOINZ. SWITCHING VOLT. COINC. TENS. DI COMMUT. COINC. TENS. DE COMMUT. COINC. TENS. CONMUT. COINCIDENCIA
U EURO-AV	SCHALTSP. EURO-AV SWITCHING VOLT. EURO-AV TENS. DI COMMUT. EURO-AV TENS. DE COMMUT. NORME FR TENS. CONMUT. EURO-AV
U VQ	SCHALTSP. VIDEO QUELLE SWITCHING VOLT. VIDEO SOURCE TENS. DI COMMUT. SORG. VIDEO TENS. DE COMMUT. SOURCE VIDEO TENS. CONMUT. VIDEO
U DATA	SCHALTSP. DATENBETR. SWITCHING VOLT. DATA MODE TENS. DI COMMUT. DATI TENS. DE COMMUT. FONCT. DONNEES TENS. CONMUT. DATOS
U 4,5MHZ	SCHALTSP. 4,5 MHZ SWITCHING VOLT. 4,5 MHZ TENS. DI COMMUT. 4,5 MHZ TENS. DE COMMUT. 4,5 MHZ TENS. CONMUT. 4,5MHZ
U τ	REGELSP. VERZOEGERT DELAYED CONTR. VOLTAGE TENS. DI CONTR. RITARD. TENS. DE REGUL. RETARDEE TENS. REGUL. RETARDADA
U TUN.	ABSTIMMSP. TUNER TUNING VOLT. TUNER TENS. DI SINTONIA TUNER TENS. D'ACCORD TUNER TENS. SINTONIA AL TUNER
U AFC	REGELSP. AFC AFC CONTROL VOLT. TENS. DI CONTR. AFC TENS. DE REGUL. AFC TENS. REGUL. CAF
U MUTE	STUMMSCHALTUNG MUTING SILENZIAMENTO SILENCIEUX MUTING
	TASTIMPULS GATING PULSE IMPULSO A CADENZA IMPULS. DE DECLENCHEMENT IMP. PUERTA
VERT.	VERT. TASTIMPULS VERT. GATING PULSE IMP. A CADENZA VERT. IMP. TRAME IMP. CUADRO
VERT.	VERT. PARABEL VERT. PARABOLA PARABOLA VERT. SIGNAL PARABOLIQUE SENAL PARABOL. VERT.
VERT.	VERT. SAEGEZAHN VERT. SAW TOOTH DENTE DI SEGA VERT. SIGNAL DENT DE SCIE DIENTE DE SIERRA VERT.
HOR.	HOR. ANSTEUERUNG HORIZ. DRIVE PILOTAGGIO ORIZZ. SYNCHR. LIGNES EXCITACION HORIZ.
REF.	REF. IMPULS REFERENCE PULSE IMP. DI RIFER. IMP. DE REFER. IMP. REFERENCIA HORIZ.
	SCHUTZSCHALTUNG CIRCUIT PROTECTION CIRCUITO DI PROTEZIONE CIRCUIT DE SECURITE CIRCUITO DE PROTECCION
	FARBTON TINT TINTA TEINTE TINTE
REF.	REF. LAUTSTAERKE VOLUME REF. VOLT. TENS. DI RIF. VOLUME TENS. DE REF. VOL. SONORE TENS. REF. VOLUMEN
	HELLIGKEIT BRIGHTNESS LUMINOSITA' LUMINOSITE BRILLO
	KONTRAST CONTRAST CONTRASTO CONTRASTE CONTRASTE
	FARBKONTRAST CONTRAST COLOUR CONTRASTO COLORE CONTRASTE COULEUR SATUR. COLOR
FBAS	FBAS-SIGNAL CCVS SIGNAL SEGNALE SVCC SIGNAL VIDEO COMPOSITE SENAL VIDEO COMPUESTA
SSC	SUPERSANDCASTLE
SB	STRAHLSTR. BEGR. BEAM CURRENT LIM. CORRENTE CATODICA MEDIA LIM. COUR. DE FAISCEAU CORRIENTE MEDIA DE HAZ
SSB	SPITZ. STRAHLSTR. BEGR. PEAK BEAM CURRENT LIMITING CORR. CATODICA DI PICCO LIM. DE FAISCEAU CRETE CORRIENTE PICO DE HAZ
R	ROT-SIGNAL RED SIGNAL SEGNALE ROSSO SIGNAL ROUGE SENAL ROJA
G	GRUEN-SIGNAL GREEN SIGNAL SEGNALE VERDE SIGNAL VERT SENAL VERDE
B	BLAU-SIGNAL BLUE SIGNAL SEGNALE BLU SIGNAL BLEU SENAL AZUL
Y	Y-SIGNAL SEGNALE Y SIGNAL Y SENAL Y
F	F-SIGNAL CHROMA SIGNAL SEGNALE F SIGNAL CHROMA SENAL CROMA
SW	SCHWARZWERT BLACK LEVEL LIVELLO DEL NERO NIVEAU DU NOIR NIVEL DE NEGRO
AUDIO	AUDIO-SIGNAL SEGNALE AUDIO SIGNAL AUDIO SENAL AUDIO
AUDIO-L	AUDIO SIGNAL LINKS AUDIO SIGNAL LEFT SEGNALE AUDIO SINISTRA SIGNAL AUDIO GAUCHE SENAL AUDIO IZQUIERDA
AUDIO-R	AUDIO SIGNAL RECHTS AUDIO SIGNAL RIGHT SEGNALE AUDIO DESTRA SIGNAL AUDIO DROIT SENAL AUDIO DERECHA
EURO-AV VIDEO	VIDEO SIGNAL EURO-AV SEGNALE VIDEO EURO-AV SIGNAL VIDEO NORME FR SENAL VIDEO EURO-AV
EURO-AV AUDIO-R	AUDIO SIGNAL EURO-AV RECHTS AUDIO SIGNAL EURO-AV RIGHT SEGNALE AUDIO EURO-AV DESTRA SIGNAL AUDIO NORME FR DROIT SENAL AUDIO DERECHA EURO-AV
EURO-AV AUDIO-L	AUDIO SIGNAL EURO-AV LINKS AUDIO SIGNAL EURO-AV LEFT SEGNALE VIDEO EURO-AV SINISTRA SIGNAL AUDIO NORME FR GAUCHE SENAL AUDIO IZQUIERDA EURO-AV
IR	IR-SIGNAL SEGNALE IR SIGNAL IR SENAL IR
U G1	SPG. GITTER 1 VOLTAGE GRID 1 TENS. GRIGLIA 1 TENS. GRILLE G1 TENS. REJILLAS G-1
U FOC.	FOKUSSP. FOCUSSING VOLTAGE TENS. DI FOCALIZZ. TENS. DE FOCALIS. TENS. FOCALIZACION
U H	HOCHSPANNUNG EHT VOLTAGE ALTA TENS. HAUTE TENS. MAT
U SG	SCHIRMGITTERSP. SCREEN-GRID VOLT. TENS. GRIGLIA SCHERMO TENS. GRILLE-ECRAN TENS. ACELERADORES
TE	TEXT ENABLE
SCL	I²C-CLOCK I²C-BUS
VCL	VCR-CLOCK
ICL	I-BUS-CLOCK
SDA	DATEN DATA DATI DONNEES DATA
ZF	ZF-SIGNAL IF SIGNAL SEGNALE FI SIGNAL FI SENAL DE FI
PP	PAL PRIORITAET PAL PRIORITY PRIORITA' PAL PRIORITE PAL PRIORIDAD PAL
F-DIR.	F-SIGNAL DIREKT F SIGNAL DIRECT SEGNALE F DIRETTO SIGNAL CHROMA DIRECT SENAL CROMA DIRECTA
F V	FV-SIGNAL FV SIGNAL SEGNALE FV SIGNAL FY SENAL FV
F U	FU-SIGNAL FU SIGNAL SEGNALE FU SIGNAL FX SENAL FU
F-VERZ	F-SIGNAL VERZOEGERT F SIGNAL DELAYED SEGNALE F RITARD. SIGNAL CHROMA RETARDE SENAL CROMA RETARDADA
DL	VERZOEGERUNGSLEITUNG DELAY LINE LINEA DI RITARDO LIGNE A RETARD LINEA DE RETARDO
U SCHUTZ	SCHALTSP./SCHUTZFUNKTION SWITCHING VOLT. /PROTECTIVE FUNC. TENS. DI COMMUT. /FUNZ.DI PROTEZ. TENS. DE COMMUT. / SECURITE TENS. CONMUT./PROTECCION
FBAS SYNC.	FBAS/SYNC.-SIGNAL CCVS/SYNC. SIGNAL SEGNALE SINCR. /VIDEO COL. COMP. SIGNAL SYNC./VIDEO COMPOSITE SENAL SINCR./VIDEO COMPUESTA
SYNC.	SYNC.-SIGNAL SYNC. SIGNAL SEGNALE SINCR. SIGNAL SYNC. SENAL DE SINCRONISMOS
U 50/60 HZ	SCHALTSP. 50/60HZ SWITCHING VOLT.50/60HZ TENS. DI COMMUT. 50/60HZ TENS. DE COMMUT. 50/60HZ TENS. CONMUT. 50/60HZ
U BTX	SCHALTSP. BTX SWITCHING VOLT. BTX (VIEWDATA) TENS. COMMUT. VIDEOTEL TENS. COMMUT. VIDEOTEXTE TENS. CONMUT. VIDEOTEXTO
SYNC. VT	SYNC. VT SYNC. VT (TELETEXT) SINCR. TELEVIDEO SYNC. TELETEXTE SINCR. TELETEXTO
SYNC. BTX	SYNC. BTX SYNC. BTX (VIEWDATA) SINCR. VIDEOTEL SYNC. VIDEOTEXTE SINCR. VIDEOTEXTO
U RESET	SCHALTSP. RESET SWITCHING VOLT. RESET TENS. COMMUT. RESET TENS. CONMUT. RESET
U STAND BY	SCHALTSP. STAND BY SWITCHING VOLT. STAND BY TENS. COMMUT. STAND BY TENS. COMMUT. VEILLE TENS. CONMUT. STAND BY
U HUB	SCHALTSP. HUB SWITCHING VOLT. DEVIATION TENS. COMMUT. DEVIAZIONE TENS. COMMUT. DEVIATION TENS. CONMUT. DESVIACION
U DEEM	SCHALTSP. DEEM SWITCHING VOLT. DEEMPHASIS TENS. COMMUT. DEENFASI TENS. COMMUT. DESACCENT. TENS. CONMUT. DEENFASIS
U CAM. AV	SCHALTSP. KAMERA WIEDERG. SWITCHING VOLT. CAMERA PLAYBACK TENS. COMMUT. RIPRODUZ. TELECAM. TENS. COMMUT. REPROD. CAMERA TENS. CONMUT. REPROD. CAMARA
U LED	SCHALTSP. LED LED SWITCHING VOLT. LED TENS. DI COMMUT. TENS. DE COMMUT. LED TENS. CONMUT. LED

Wichtige Schaltzeichen
Important circuit simbols
Segni circuitali importanti

ZEILENBREITE
LINE WIDTH
LARGHEZZA DI RIGA
AMPLITUDE HORIZONTALE
AMPLITUD HORIZONTAL

OST / WEST AMPLITUDE
EAST / WEST AMPLITUDE
AMPIEZZA EST / OVEST
AMPLITUDE EST / OUEST
AMPLITUD E/O

HOR. LINEARITAET
HORIZ. LINEARITY
LINEAR. ORIZZ.
LINEAR. HORIZONT.
LINEAL. HORIZONTAL

BILDLAGE HOR.
HORIZ. PICTURE POSITION
POSIZIONE ORIZZ. D'IMMAGINE
CADRAGE HORIZONT.
CENTRADO HORIZONTAL

FOKUSREGLER
FOCUS CONTROL
REGOLAT. DI FOCALIZZ.
REGLAGE DE FOCALISATION
CONTROL DE FOCO

BILDLAGE VERT.
VERT. PICTURE POSITION
POSIZ. VERT. D'IMMAGINE
CADRAGE VERTICAL
CENTRADO VERTICAL

BILDAMPLITUDE
FIELD AMPLITUDE
AMPIEZZA D'IMMAGINE
AMPLITUDE VERTICALE
AMPLITUD VERTICAL

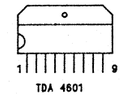
TRAPEZ
TRAPEZIUM
TRAPEZIO
TRAPEZE
TRAPECIO

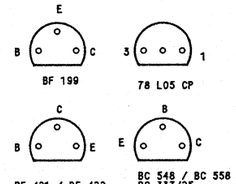
HOR. FREQUENZ
HOR. FREQUENCY
FREQ. ORIZZ.
FREQ. HORIZ.
FRECUENCIA HORIZONTAL

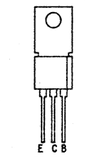
VERT. FREQUENZ
VERT. FREQUENCY
FREQ. VERT.
FRECUENCIA VERTICAL

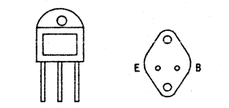
VERT. LINEARITAET
VERT. LINEARITY
LINEAR. VERT.
LINEAR. VERT.
LINEALIDAD VERTICAL

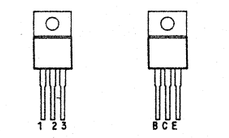
OST/WEST SYMMETRIE
EAST/WEST SYMMETRY
SIMMETRIA EST/OVEST
SYMMETRIE EST/OUEST
SIMETRIA E/O

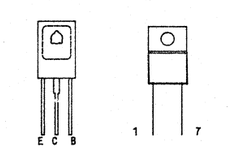


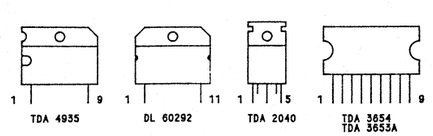












3/4W 0617
1/10W 0204
1/4W 0207
1/2W 0411
1W 0411
2W 0617
4W 0922

WIDERSTAND NICHT B
RESISTOR NOT FLAMM
RESISTENZA NON INF
RESISTANCE ININFLA

DRAHTWIDERSTAND
WIRE RESISTOR
RESISTENZA A FILO
RESISTANCE BOBINE

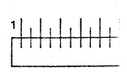
SICHERUNGSWIDERST
SAFETY RESISTOR
RESISTENZA DI SIC
RESISTANCE DISJONC

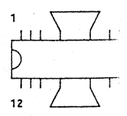
KONDENSATOR
CAPACITOR
CONDENSATORE
CONDENSATEUR
250V
400V
630V
1000V

FOLIE
FOIL
A FOGLIA
FOLIO PLASTIQUE

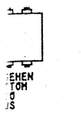
KERAMIK
CERAMIC
CERAMICO
CERAMIQUE

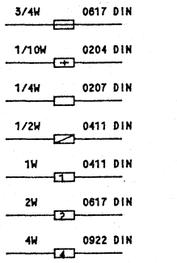
ELKO
ELECTROLYTIC
ELETTROLITICO
ELECTROLYTIQUE





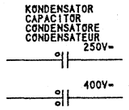
schaltzeichen
ircuit simbols
itali importanti



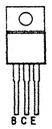


78 L05 CP

BC 548 / BC 558
BC 337/25
PH 2222
BC 338 / BC 324
BF 414
BC 308 / BC 248
BC 547

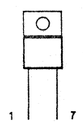


BU 208A
BU 546

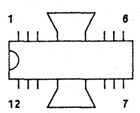


BD 561G
BU 908
BU 903
S 668T
BUT 11A
BUT 56A

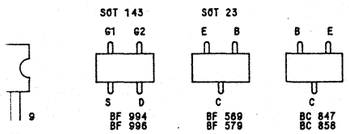
TDA 2653A

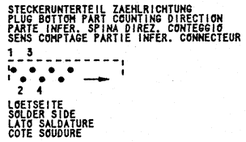


TDA 8170



TDA 2655B





ACHTUNG: **BEI EINGRIFFEN INS GERÄT SIND DIE SICHERHEITSVORSCHRIFTEN NACH VDE701(REPARATURBEZOGEN) BZW.VDE0860/IEC65 (GERÄTEBEZOGEN) ZU BEACHTEN.**

⚠ IM REPARATURFALL DÜRFEN NUR ORIGINALBAUTEILE VERWENDET WERDEN !

ACHTUNG! (D) VORSCHRIFTEN BEIM UMGANG MIT MOS-BAUTEILEN BEACHTEN !

ATTENTION: (GB) **PLEASE OBSERVE THE APPLICABLE SAFETY REQUIREMENTS ACCORDING TO VDE 701 (CONCERNING REPAIRS) AND VDE 0860/IEC 65 (CONCERNING TYPE OF PRODUCT).**

⚠ ONLY USE COMPONENTS WITH THE SAME SPECIFICATION FOR REPLACEMENT !

ATTENTION! (GB) OBSERVE MOS COMPONENTS HANDLING INSTRUCTIONS WHEN SERVICING !

ATTENTION: (F) **PRIERE D'OBSERVER LES PRESCRIPTIONS DE SECURITE VDE 701 (CONCERNANT LES REPARATIONS) ET VDE 0860/IEC 65 (CONCERNANT LE TYPE DE PRODUIT).**

⚠ EN CAS DE REMPLACEMENT N´UTILISER QUE DES COMPOSANTS DES MEMES SPECIFICATIONS !

ATTENTION! (F) LORS DE LA MANIPULATION DES CIRCUITS MOS , RESPECTER LES PESCRIPTIONS MOS !

ATTENZIONE: (I) **OSSERVARNE LE CORRISPONDENTI PRESCRIZIONI DI SICUREZZA VDE 701 (CONCERNENTE SERVIZIO) E VDE 0860/IEC 65 (CONCERNENTE IL TIPO DI PRODOTTO).**

⚠ IN CASO DI SOSTITUZIONE IMPIEGARE SOLO COMPONENTI CON LE STESSE CARATTERISTICHE !

ATTENZIONE! (I) OSSERVARE LE RELATIVE PRESCRIZIONI DURANTE, LAVORI CON COMPONENTI MOS !

ATENCION: (E) **RECOMENDAMOS LAS NORMAS DE SEGURIDAD VDE U OTRAS NORMAS EQUIVALENTES. POR EJEMPLO : VDE 701 PARA REPARACIONES, VDE 0860/IEC 65 PARA APARATOS.**

⚠ EN CASO DE REPARACION UTILIZAR UNICAMENTE REPUESTOS ORIGINALES.

ATENCION! (E) DURANTE LA REPARACION OBSERVAR LAS NORMAS SOBRE COMPONENTES MOS !

TABELLE UEBER 90° BILDROEHRENTYPEN
TABLE OF 90° PICTURE TUBE TYPES
TABELLA DI TIPI DI TUBI A 90°
TABLEAU DES MODELES DE TUBES CATHOD. 90°

○ - RUNDROEHRE / CIRCULAR PICTURE TUBE / TUBO AD ANGOLI TONDI / TUBE A COINS RONDS

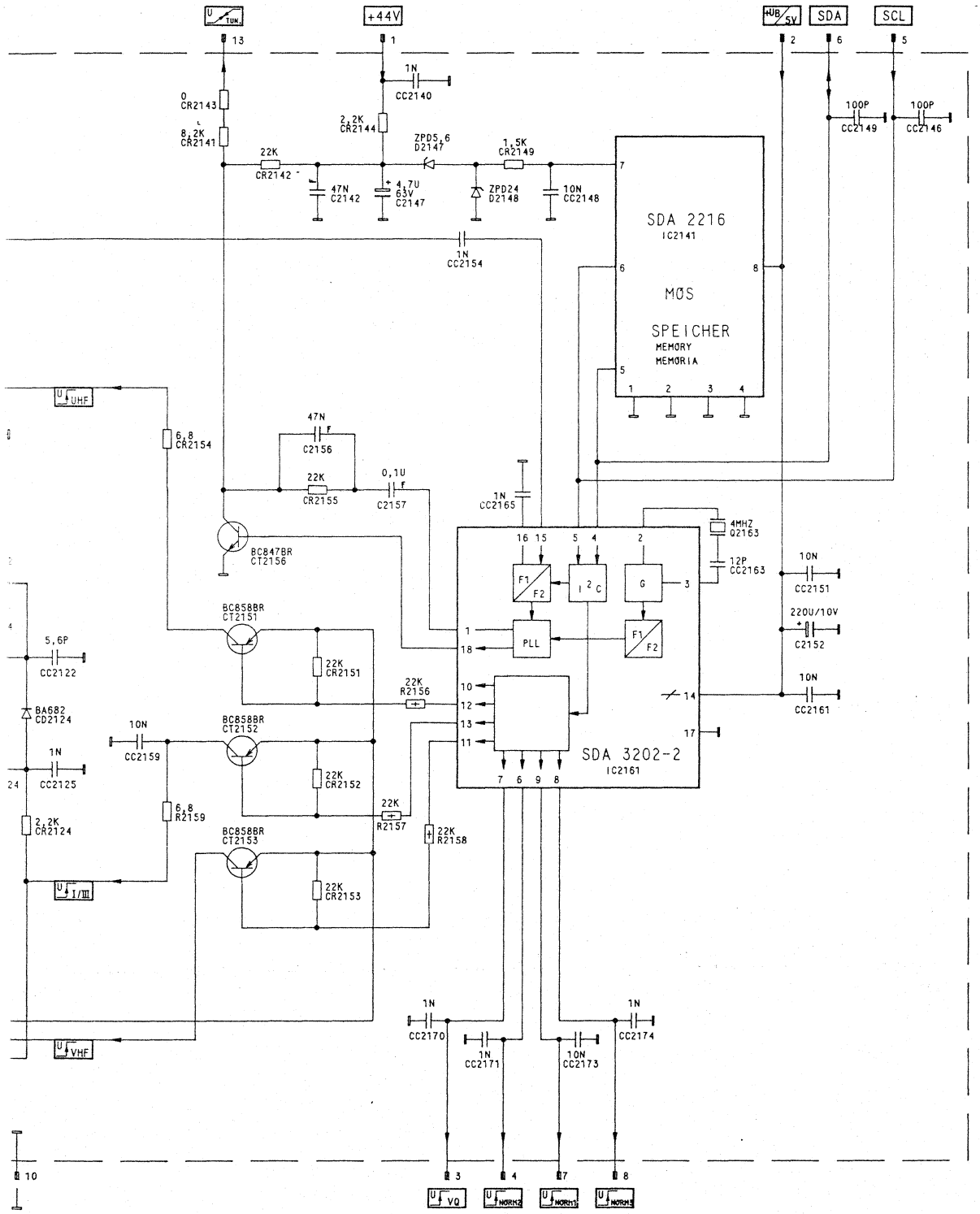
□ - FLAT SQUARE-ROEHRE / FLAT SQUARE TUBE / TUBO FLAT SQUARE / TUBE FLAT SQUARE

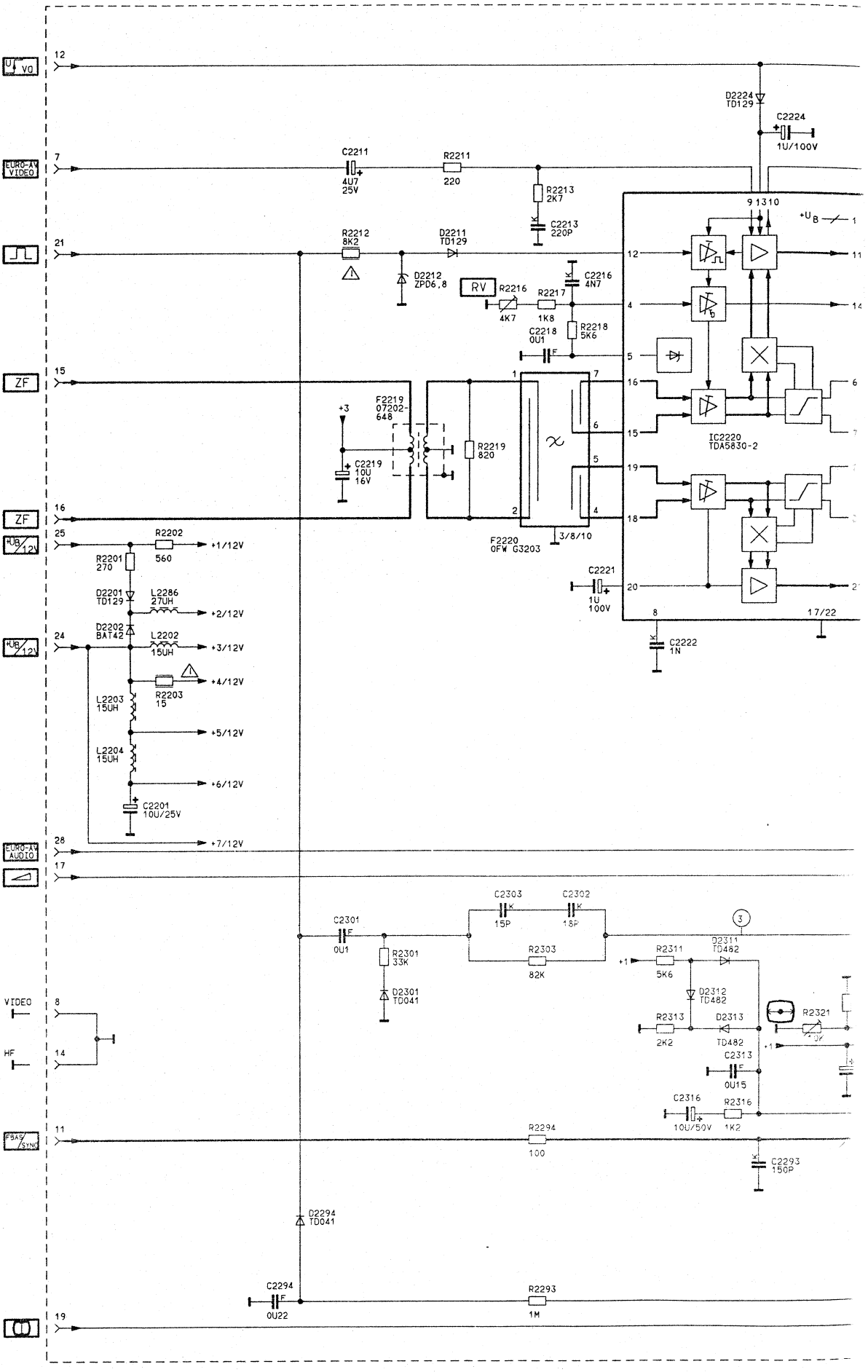
⌀	TYPE TYPE TIPO MODELE	HERSTELLER MANUFACTURER DITTA FABRICANT	BEMERKUNG REMARK OSSERVAZIONE REMARQUE	L_V MH	L_H MH	R_V Ω	R_H Ω	U_H KV	$U_{FOC.}$ KV	SACHNUMMER ORDER NO. N.D'ORDINAZ. N. DE PRODUIT
14"/37CM	A 34 JLL 70 X 23	ORION	○ CLEAR GLASS	28	2,47	14,7	3,2	23	5,8-6,5	8300-030-252
14"/37CM	A 34 JLL 90 X 23	ORION	○ TINTED GLASS	28	2,47	14,7	3,2	23	5,8-6,5	8300-020-035
14"/37CM	A 34 EAC 00 X 03	PHILIPS	○ CLEAR GLASS	27,5	2,5	13,75	3,3	23	6-6,9	8300-030-252
14"/37CM	A 34 EAC 01 X 03	PHILIPS	○ TINTED GLASS	27,5	2,5	13,75	3,3	23	6-6,9	8300-020-035
14"/37CM	370 JMB 22-TC 03	MITSUBISHI	○ CLEAR GLASS	28	2,41	14,7	3,2	23	5,3-6	8300-030-252
14"/37CM	A 34 EAC 00 X 06	PHILIPS	○ CLEAR GLASS HOEHERE EMPFINDLICHKEIT / HIGHER SENS. SENS. MAGG. SENSIBILITE SUPERIEURE	27,5	2,5	13,6	3,3	23	6,1-6,9	8300-020-036
14"/37CM	A 34 EAC 01 X 06	PHILIPS	○ TINTED GLASS HOEHERE EMPFINDLICHKEIT / HIGHER SENS. SENS. MAGG. SENSIBILITE SUPERIEURE	27,5	2,5	13,6	3,3	23	6,1-6,9	
15"/40CM	A 36 EAM 00 X 01	PHILIPS	□ CLEAR GLASS	26,2	2,43	12,2	3,2	23	6,7-7,6	8300-020-188
15"/40CM	A 36 EAM 01 X 01	PHILIPS	□ TINTED GLASS	26,2	2,43	12,2	3,2	23	6,7-7,6	8300-020-189
15"/40CM	A 36 JAR 00 X 01(M)	TOSHIBA	□ CLEAR GLASS	28	2,5	14,7	3,2	22	6,7-7,4	8300-020-188
15"/40CM	A 36 JAR 40 X 03(MW)	TOSHIBA	□ TINTED GLASS	28	2,5	14,7	3,2	22	6,7-7,4	8300-020-189
15"/40CM	A 36 JUF 60 X 06	HITACHI	□ TINTED GLASS	28	2,5	15,4	3,7	22	6,7-7,4	
16"/42CM	A 38 EAC 00 X 03	PHILIPS	○ CLEAR GLASS	27,5	2,5	11,8	3,3	23	6,1-6,9	8300-030-364
16"/42CM	A 38 EAC 01 X 03	PHILIPS	○ TINTED GLASS	27,5	2,5	11,6	3,3	23	6,1-6,9	8300-020-190
16"/42CM	420 FSB 22-TC02(PY)	TOSHIBA	○ CLEAR GLASS	28	2,41	14,7	3,1	22	5,8-6,5	8300-030-365
16"/42CM	A 38 JAN 40 X 01(W)	TOSHIBA	○ TINTED GLASS	28	2,41	14,7	3,1	22	5,6-6,5	8300-020-190
16"/42CM	420 GAB 22-TC02	HITACHI	○ CLEAR GLASS	28	2,5	14,7	3,3	23	6,1-6,8	8300-030-365
16"/42CM	420 GUB 22-TC01	MITSUBISHI	○ CLEAR GLASS	28	2,41	14,7	3,2	22	5,9-6,6	8300-030-364
17"/45CM	A 41 EAM 00 X 01	PHILIPS	□ CLEAR GLASS	26	2,43	12,2	3,2	23	6,7-7,6	8300-020-201
17"/45CM	A 41 EAM 01 X 01	PHILIPS	□ TINTED GLASS	26	2,43	12,2	3,2	23	6,7-76	8300-020-202
17"/45CM	A 41 JAR 00 X 01(M)	TOSHIBA	□ CLEAR GLASS	28	2,5	14,7	3,2	22	6,7-7,4	8300-020-201
17"/45CM	A 41 JAR 40 X 02(MW)	TOSHIBA	□ TINTED GLASS	28	2,5	14,7	3,2	22	6,7-7,4	8300-020-202
19"/50CM	A 46 JAR 00 X 01(M)	TOSHIBA	□ CLEAR GLASS	28	2,2	14,7	2,6	25	7,6-8,4	8300-020-308
19"/50CM	A 46 JAR 40 X 01(W)	TOSHIBA	□ TINTED GLASS	28	2,2	14,7	2,6	25	7,6-8,4	8300-020-312
19"/50CM	A 46 JSF 01 X 03	HITACHI	□ CLEAR GLASS	28	2,2	13,8	3	25	7,8-8,8	8300-020-308
19"/50CM	A 46 JSF 61 X 03	HITACHI	□ TINTED GLASS	28	2,2	13,8	3	25	7,8-8,8	8300-020-312
20"/51CM	A 48 EAC 00 X 01	PHILIPS	○ CLEAR GLASS	27,5	2,5	11,8	3,3	25	7,3-8,3	8300-020-310
20"/51CM	A 48 EAC 01 X 01	PHILIPS	○ TINTED GLASS	27,5	2,5	11,8	3,3	25	7,3-8,3	8300-020-311
20"/51CM	510 YXB 22-TC02(SY)	TOSHIBA	○ CLEAR GLASS	28	2,14	14,7	2,7	25	7,6-8,4	8300-030-351
20"/51CM	A 48 JAN 43 X 01(W)	TOSHIBA	○ TINTED GLASS	28	2,14	14,7	2,7	25	7,6-8,4	8300-020.311
20"/51CM	510 ABWB 22-TC02	HITACHI	○ CLEAR GLASS	28,7	2,4	13,8	3,2	25	7,7-8,5	8300-030-351
20"/51CM	A 48 JLL 90 X 01	ORION	○ TINTED GLASS	28	2,14	14,7	2,15	25	7,3-8,3	
21"/55CM	A 51 JAR 00 X 03(M)	TOSHIBA	□ CLEAR GLASS	28	2,11	14,7	2,6	25	7,6-8,4	8300-020-535
21"/55CM	A 51 JAR 43 X 01(MW)	TOSHIBA	□ TINTED GLASS	28	2,11	14,7	2,6	25	7,6-8,4	8300-020-536
21"/55CM	A 51 JSX 01 X 03	HITACHI	□ CLEAR GLASS	28	2,2	13,8	3	25	7,8-8,8	8300-020-535
21"/55CM	A 51 JSX 61 X 03	HITACHI	□ TINTED GLASS	28	2,2	13,8	3	25	7,8-8,8	8300-020-536

KABEL-TUNER
CABLE TV TUNER
TUNER TV CAVO

29504-101.01
-101.02

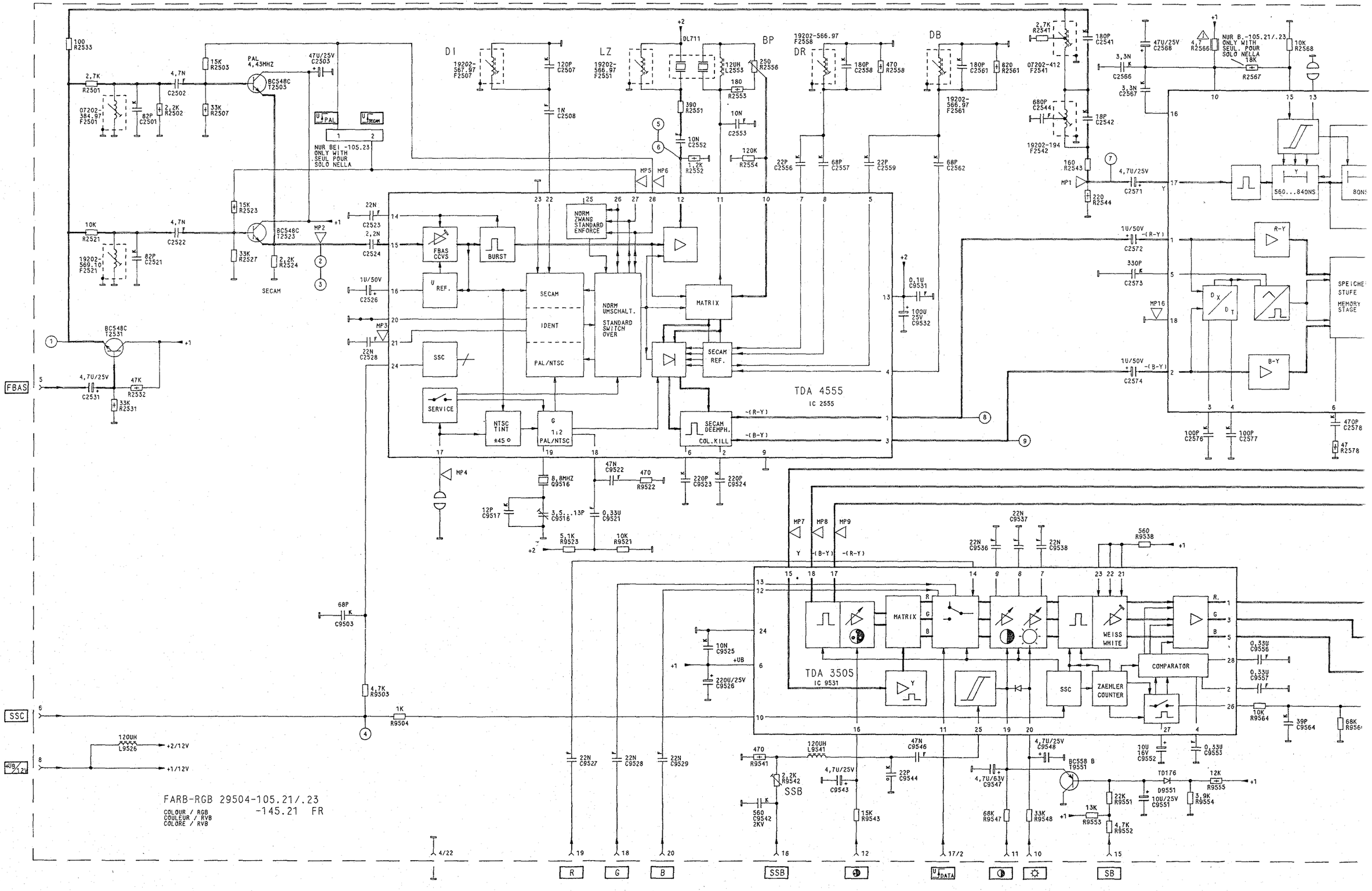
Kein Anpassungsabgleich bei Austausch der Steckkarte notwendig
When replacing the plug-in board, no alignment is necessary
Non è necessaria nessuna taratura di adattamento dopo la sostituzione di una scheda ad innesto

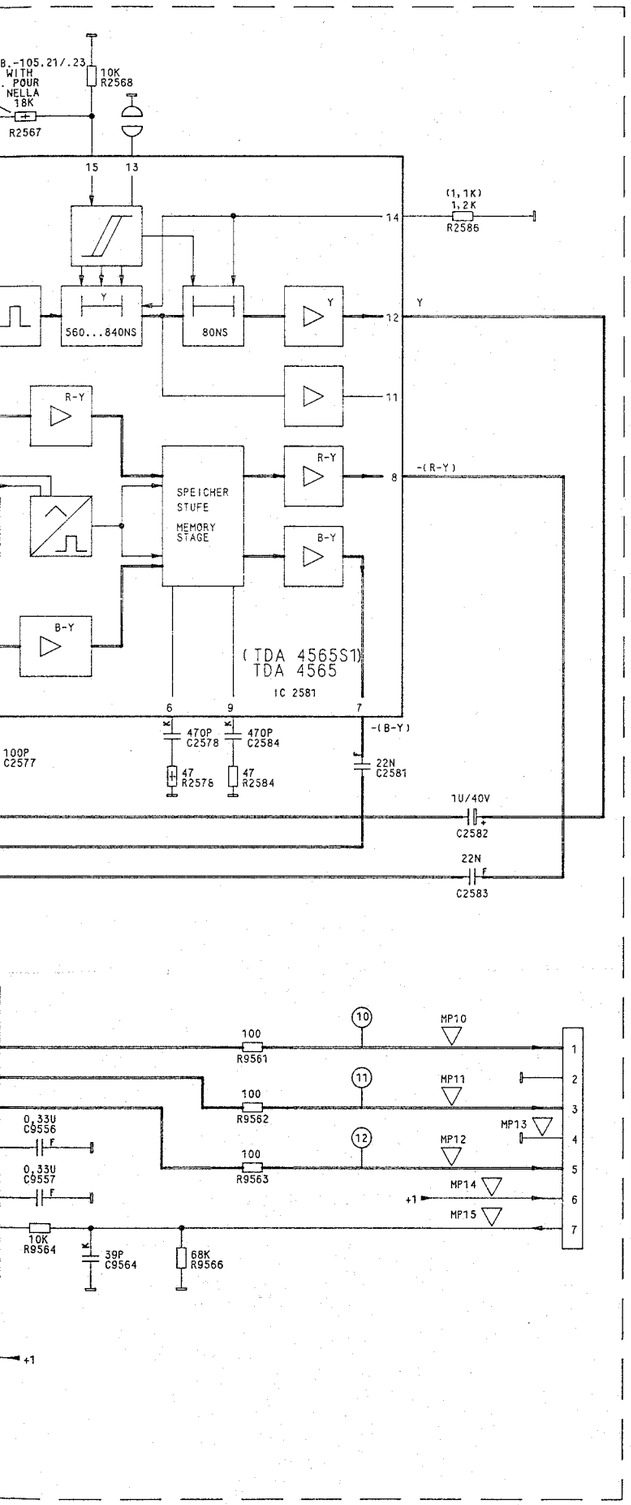

U TUN.
+44V
UB/5V
SDA
SCL
13
1
2
6
5
1N
CC2140
0
CR2143
8,2K
CR2141
2,2K
CR2144
ZPD5,6
D2147
1,5K
CR2149
100P
CC2149
100P
CC2146
22K
CR2142
47N
C2142
4,7U
63V
C2147
ZPD24
D2148
10N
CC2148
7
SDA 2216
IC2141
MOS
SPEICHER
MEMORY
MEMORIA
6
8
5
1
2
3
4
1N
CC2154
U UHF
6,8
CR2154
47N
C2156
22K
CR2155
0,1U
C2157
1N
CC2165
BC847BR
CT2156
4MHZ
Q2163
12P
CC2163
16
15
5
4
2
F1/F2
I²C
G
3
PLL
F1/F2
1
18
10N
CC2151
220U/10V
C2152
10N
CC2161
14
17
10
12
13
11
SDA 3202-2
IC2161
7
6
9
8
BC858BR
CT2151
22K
CR2151
22K
R2156
5,6P
CC2122
BA682
CD2124
1N
CC2125
10N
CC2159
BC858BR
CT2152
22K
CR2152
6,8
R2159
22K
R2157
2,2K
CR2124
BC858BR
CT2153
22K
CR2153
22K
R2158
U I/III
U VHF
1N
CC2170
1N
CC2171
10N
CC2173
1N
CC2174
10
3
4
7
8
U VQ
U NORM2
U NORM1
U NORM3

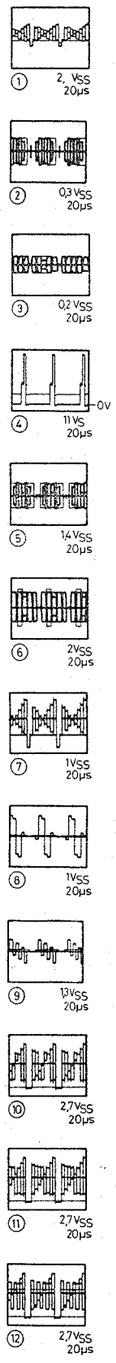

12
U VG
D2224 TD129
C2224 1U/100V
7
EURO-AV VIDEO
C2211 4U7 25V
R2211 220
R2213 2K7
C2213 220P
91310
+UB
21
R2212 8K2
D2211 TD129
D2212 ZPD6,8
RV
R2216 4K7
R2217 1K8
C2216 4N7
C2218 0U1
R2218 5K6
15
ZF
F2219 07202-648
+3
C2219 10U 16V
R2219 820
F2220 OFW G3203
3/8/10
IC2220 TDA5830-2
16
ZF
25
+UB 12V
R2202 560
R2201 270
+1/12V
D2201 TD129
L2286 27UH
+2/12V
D2202 BAT42
L2202 15UH
24
+UB 12V
+3/12V
+4/12V
R2203 15
L2203 15UH
+5/12V
L2204 15UH
+6/12V
C2201 10U/25V
+7/12V
C2221 1U 100V
C2222 1N
17/22
28
EURO-AV AUDIO
17
C2303 15P
C2302 15P
C2301 0U1
R2303 82K
R2301 33K
D2301 TD041
R2311 5K6
D2311 TD482
D2312 TD482
R2313 2K2
D2313 TD482
R2321
C2313 0U15
C2316 10U/50V
R2316 1K2
VIDEO
8
HF
14
11
FBAS/SYNC
R2294 100
C2293 150P
D2294 TD041
C2294 0U22
R2293 1M
19

ZF-VERSTAERKER 29504-102.66

IF AMPLIFIER/SYNC.
AMPLI FI/SINC
AMPLIFICATORE FI/SYNC


TDA 4555
IC 2555
TDA 3505
IC 9531
FBAS
SSC
SECAM
PAL/NTSC
NORM UMSCHALT.
STANDARD SWITCH OVER
NORM ZWANG STANDARD ENFORCE
FBAS CCVS
U REF.
BURST
SSC
SERVICE
NTSC TINT ±45°
G 1:2 PAL/NTSC
MATRIX
SECAM REF.
SECAM DEEMPH. COL.KILL
-(R-Y)
-(B-Y)
SECAM
NUR BEI -105.23 ONLY WITH SEUL POUR SOLO NELLA
NUR B.-105.21/.23 ONLY WITH SEUL POUR SOLO NELLA
DI
LZ
BP
DR
DB
SPEICHERSTUFE
MEMORY STAGE
R-Y
B-Y
Y
S60...840NS
80NS
MATRIX
WEISS WHITE
COMPARATOR
ZAEHLER COUNTER
SSB
+UB
+2/12V
+1/12V
FARB-RGB 29504-105.21/.23
COLOUR / RGB
COULEUR / RVB
COLORE / RVB
-145.21 FR





1. Weißabgleich
- FuBK-Testbild einspeisen.
- ◑ min., ○ nom., ◑ max. einstellen.
- Regler VG und VB (Bildrohrplatte) so einstellen, daß keine Verfärbungen in den Grauwerten sichtbar sind.

2. Sperrpunktabgleich

Eine manuelle Einstellung ist nicht möglich, da die Steckkarte eine automatische Dunkelstromregelung besitzt. Kontrolle des Sperrpunkts (Oszilloskop erforderlich).
- FuBK-Testbild einspeisen.
- ◑ min., ○ nom., ◑ min., einstellen.
- Tastkopf an den Kollektoren der Transistoren T 736, T 756, T 776 anhängen (Bildrohrplatte). Die Schwarzwerte der drei Kathodensignale liegen bei ca. 140-150V.

3. Einstellungen im Farbkanal
- PAL-Testbild einspeisen.
- FK nom., H nom. K max. einstellen.
- IC-Pin 28 vom TDA 4555 mit +12V verbinden.
- IC-Pin 17 vom TDA 4555 mit Masse verbinden.
- Mit Trimmer C9516 die durchlaufenden Farbbalken zum Stehen bringen.
- Kurzschlußbrücken entfernen.
- Tastkopf an MP 12, mit Regler BP und Spule LZ die Doppelbilder des B-Signals zur Deckung bringen.
- SECAM-Testbild einspeisen.
- Tastkopf an Pin 1 vom TDA 4555 anschließen, mit Spule DR Nullinie des (R-Y)-Signals auf Zeilenniveau bringen.
- Tastkopf an Pin 3 vom TDA 4555 anschließen, mit Spule DB Nullinie des (B-Y)-Signals auf Zeilentastniveau bringen.
- Spule F 2521 so einstellen, daß das (B-Y)-Signal keine Überschwinger hat.

4. Strahlstrom
- Der Regler "SSB" wird werkseitig auf Mittelwert eingestellt.
- Sollte bei vollem Kontrast und normal eingestellter Helligkeit in Spitzenweißfeldern des Sendertestbildes eine Defokussierung (starke Unschärfe bei weißen Schriftzeichen in Bildröhrenmitte) auftreten, so muß mit Regler "SSB" auf scharfe Schriftkonturen eingestellt werden (Reduzierung des Spitzenstrahlstromes).

1. White level adjustment
- Display colour bar test pattern.
- Set ◑ to min., ○ to nom., ◑ to max.
- Adjust presets VG and VB (CRT socket board) so that the picture does not show any colouration.

2. Adjustment of cut-off point

Manual adjustment is not possible, as the circuit board employs an automatic dark current control circuit.
To check cut-off point (oscilloscope required), proceed as follows:
- Display colour bar test pattern.
- Set ◑ to min., ○ to nom., ◑ to min.
- Connect test probe to collectors of T 736, T 756, T 776 (CRT socket board).
  The black leves of the three cathode signals should be 140-150V.

3. Adjustments in chroma channel
- Display PAL test pattern.
- Adjust colour level and brightness to nominal value, contrast to maximum.
- Connect pin 28 of IC TDA 4555 to +12V supply.
- Connect pin 17 to IC TDA 4555 to chassis.
- Adjust trimmer C9516 for stationary pattern in colour bars.
- Remove wire links.
- Connect test probe to test point MP 12. LBring the double image produced by the B-signal to coincidence by adjusting the preset BP and the coil LZ.
- Display SECAM test pattern.
- Connect test probe to pin 1 of IC TDA 4555.
- Use coil DR to align zero level of the (R-Y) signal with the line black level.
- Connect test probe to pin 3 of IC TDA 4555.
- Use coil DB to align zero level of the (B-Y) signal with the line black level.
- Adjust coil F2521 so that the (B-Y) signal is free of overshooting.

4. Beam current
- During manufacture the control "SSB" is adjusted to middle value.
- If during max. contrast and normal brightness adjustment the peak-white fields of the test picture should be defocused (in the middle of the screen white letters are very distorted) the contours of the letters must be adjusted using control "SSB" (reducing the peak beam current).

1. Taratura del bianco
- Applicare un monoscopio FuBK.
- Regolare ◑ al minimo, ○ sul valore nominale e ◑ al massimo.
- Con i regolatori VG e VB (piastra cinescopio) eliminare eventuali macchie di colore.

2. Taratura del punto di blocco

Una regolazione manuale non è possibile, poiché questa scheda incorpora una regolazione automatica della corrente d'interdizione.
Controllo del punto di blocco (é necessario un oscilloscopio):
- Applicare un monoscopio FuBK.
- Regolare ◑ al minimo, ○ sul valore nominale e ◑ al minimo.
- Collegare la sonda ai collettori dei transistori T 736, T 756, T 776 (piastra cinescopio).
  Valore nero dei tre segnali catodici ca. 140-150V.

3. Regolazione del canale colore
- Applicare un monoscopio PAL.
- Regolare FK e H sul valore nominale, K al massimo.
- Sull'integrato TDA 4555 collegare pin 28 a +12V.
- Sull'integrato TDA 4555 collegare pin 17 a massa.
- Con C9516 fermare le barre colorate scorrevoli.
- Togliere i cortocircuiti.
- Collegare la sonda a MP 12, con il regolatore BP e la bobina LZ portare a copertura le immagini doppie del segnale B.
- Applicare un monoscopio SECAM.
- Collegare la sonda al pin 1 dell'integrato TDA 4555, con la bobina DR portare la linea zero del segnale (R-Y) sul livello della frequenza di riga.
- Collegare la sonda al pin 3 dell'integrato TDA 4555, con la bobina DB portare la linea zero del segnale (B-Y) sul livello della frequenza di riga.
- La bobina F2581 applicarla cosi in modo che il segnale (B-Y) sia chiaro.

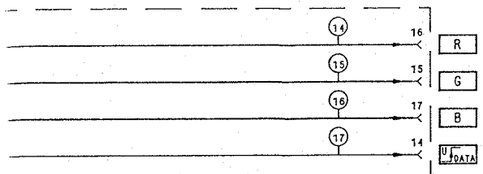
4. Corrente catodica
- Il regolatore "SSB" viene regolato già in fabbrica su valori medi.
- Se con il contrasto al massimo ed una regolazione normale della luminosità dovesse presentarsi una sfocalizzazione nei campi ultrabianchi del cinescopio (le lettere bianche al centro del cinescopio risultano molto sfuocate), agire sul regolatore "SSB" per mettere a fuoco i contorni delle lettere (riducendo la corrente catodica di picco).

VIDEOTEXT - DECODER 29504-108.04

TELETEXT DECODER
DECODER TELEVIDEO

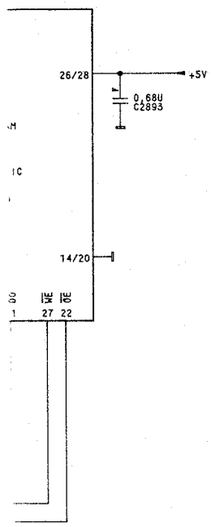
*	IC 2830	IC 2840	C 2831	C 2832	C 2834	R 2831	R 2832	R
	SDA 2216 E²PROM(1K)	SDA 2216 E²PROM(1K)	——	——	0,1U	——	——	-
	SDA 2516 E²PROM(1K)	SDA 2516 E²PROM(1K)	——	——	0,1U	——	——	-
	PCD 8572 E²PROM(1K)	PCD 8572 E²PROM(1K)	2,7N	2,7N	0,1U	10K	10K	-
	PCD 8582 E²PROM(2K)	——	2,7N	——	——	10K	——	-
	SDA 2526 E²PROM(2K)	——	——	——	——	——	——	-

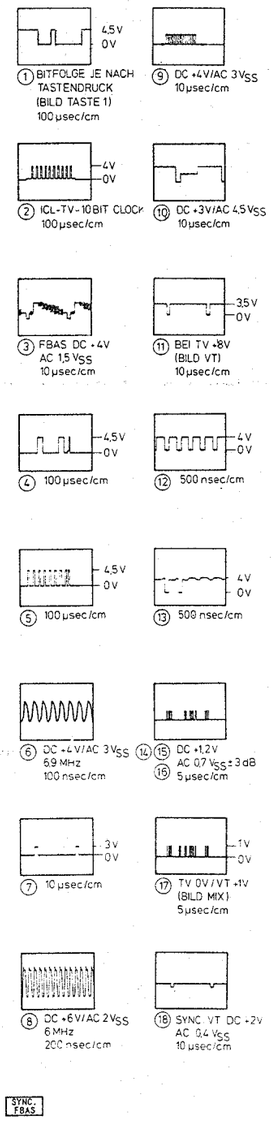
NICHT BEI
NOT WITH
PAS POUR
MANCA NEL
IC 2800
7040 C 54011 NL-2



29504-108.04

331	C 2832	C 2834	R 2831	R 2832	R 2849	D 2849	R 2804
–	——	0,1U	——	——	4,7K	ZPD 24	——
–	——	0,1U	——	——	——	——	——
N	2,7N	0,1U	10K	10K	——	——	——
N	——	——	10K	——	——	——	4,7K
–	——	——	——	——	——	——	4,7K




4,5V
0V
1 BITFOLGE JE NACH TASTENDRUCK (BILD TASTE 1) 100 µsec/cm
9 DC +4V/AC 3V$_{SS}$ 10 µsec/cm
4V
0V
2 ICL-TV-10BIT CLOCK 100 µsec/cm
10 DC +3V/AC 4,5V$_{SS}$ 10 µsec/cm
3 FBAS DC +4V AC 1,5 V$_{SS}$ 10 µsec/cm
3,5V
0V
11 BEI TV +8V (BILD VT) 10 µsec/cm
4 100 µsec/cm
12 500 nsec/cm
5 100 µsec/cm
13 500 nsec/cm
6 DC +4 V/AC 3V$_{SS}$ 6,9 MHz 100 nsec/cm
14 15 DC +1,2 V AC 0,7 V$_{SS}$ ± 3 dB
16 5 µsec/cm
3 V
0 V
7 10 µsec/cm
1 V
0 V
17 TV 0V / VT +1V (BILD MIX) 5 µsec/cm
8 DC +6 V/AC 2V$_{SS}$ 6 MHz 200 nsec/cm
18 SYNC. VT DC -2V AC 0,4 V$_{SS}$ 10 µsec/cm
18
4
SYNC. FBAS

VT-Nachrüstung und Anpassungsabgleich

Beim Nachrüsten der Videotext-Steckkarte muß die Videotext-Steckerplatte entfernt werden

Der Einsteller R 2857 steht bei Auslieferung auf Linksanschlag (kleinste Höhenanhebung, ca. 2 dB). Treten trotz einwandfreiem Antennensignal Zeichenfehler auf, R 2857 langsam nach rechts verstellen, bis Fehler verschwinden. Nicht weiterdrehen, da Fehlerhäufigkeit wieder zunehmen kann.

Während des Abgleiches ist es notwendig, die Seite 199 ständig neu anzuwählen, da nur so die Seite neu eingelesen wird und eine Beurteilung der Fehlerschwelle möglich ist.

VT (GB: Teletext) instalation and matching adjustment

When fitting the Videotext (GB: Teletext) plug-in board, the Videotext plug plate has to be removed

The control R 2857 is set in the fully anti clockwise position when the unit is delivered (smallest treble boost: approx. 2 dB). If, with a perfect aerial signal character faults occur, turn R 2857 slowly clockwise until the faults disappear. Do not turn R 2875 up any further as error rate may increase again.

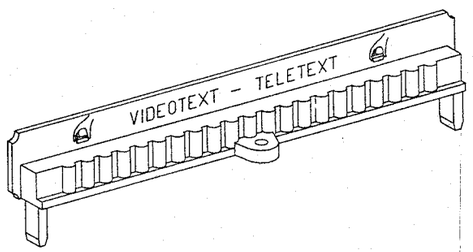
Page 199 must always be selected anew during the adjustment, as only this effects a new read-in of the page making it possible to evaluate the error level.

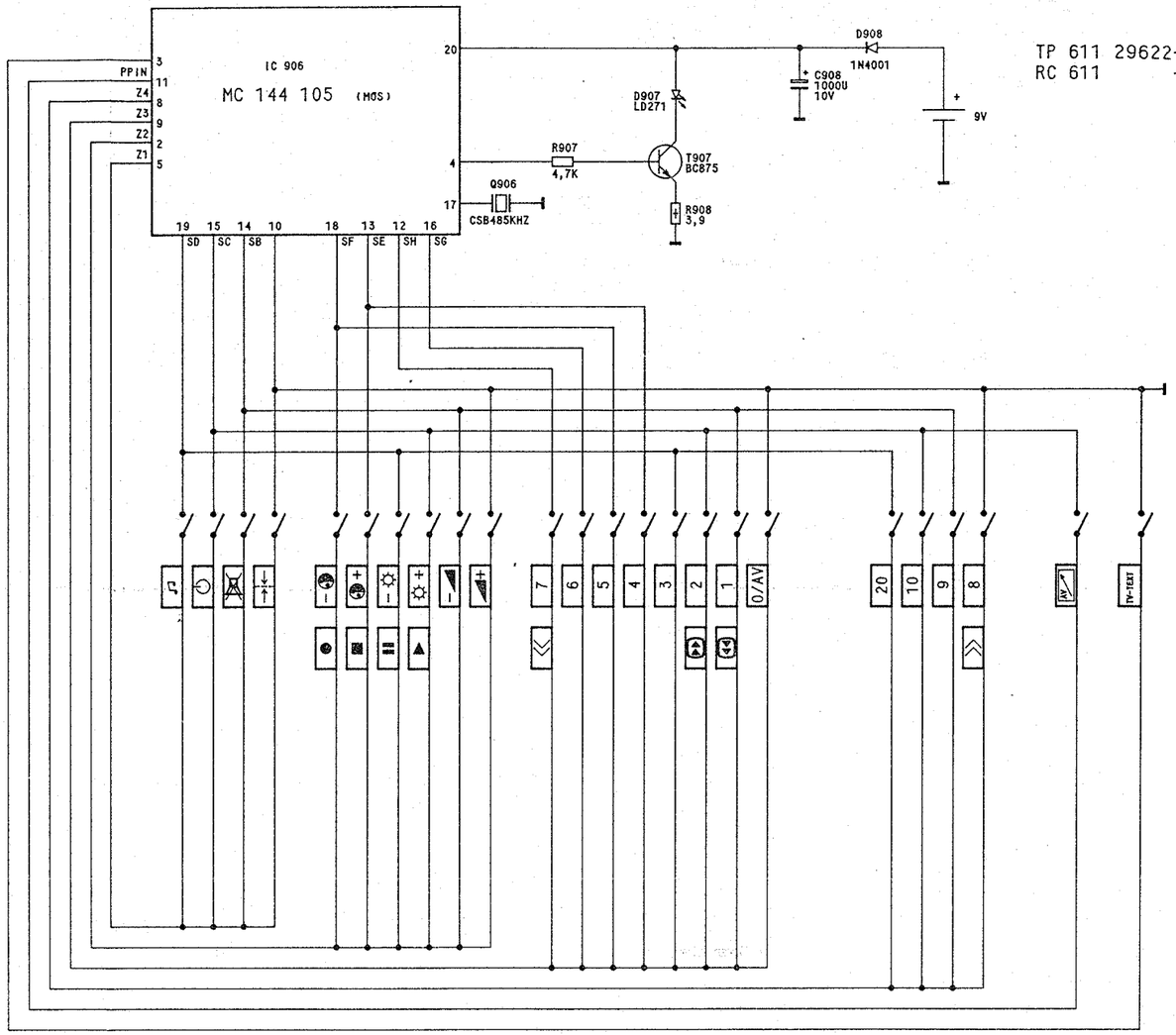
Montaggio e taratura d'addatamento della scheda ad innesto

Nel montare la scheda televideo togliere la piastrina televide

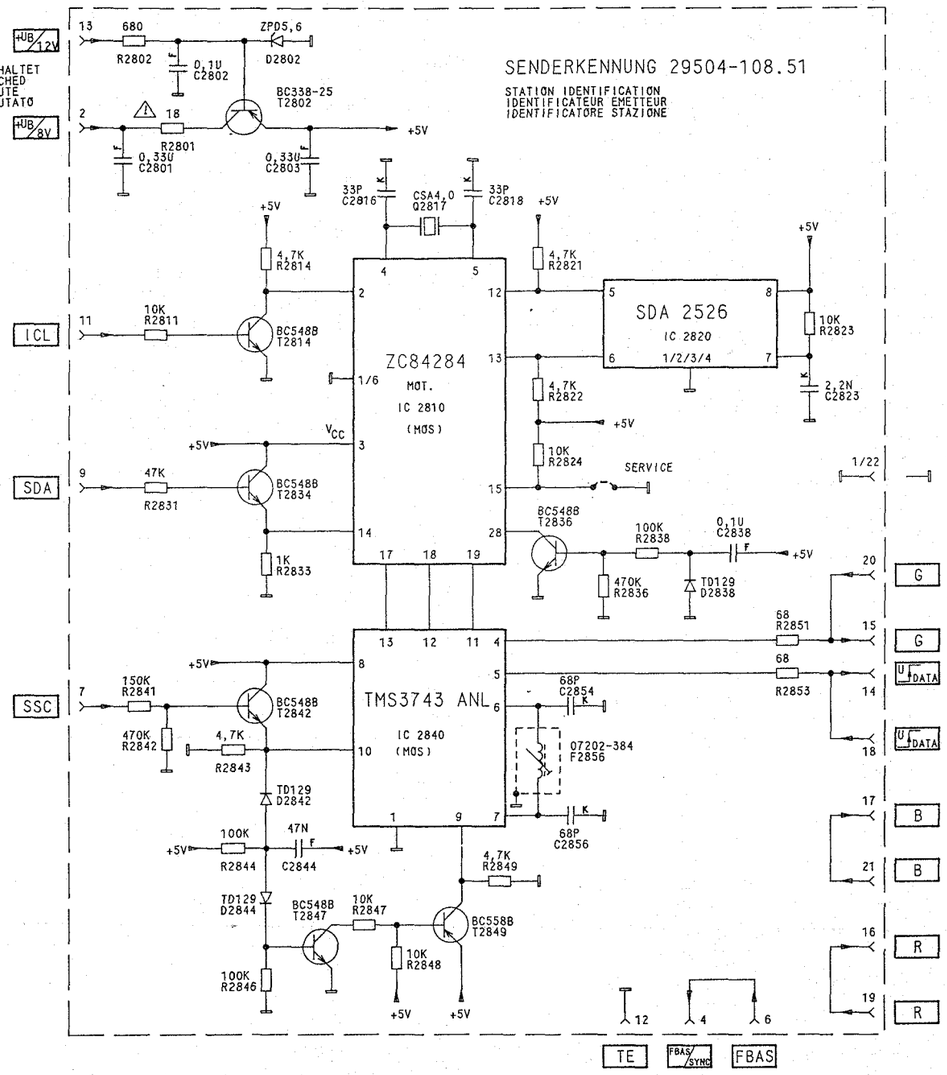
Il regolatore R 2857 viene fornito col cursore girato completamente all'estrema sinistra (minima esaltazione delle alte frequenze, ca. 2 dB). Se si manifestano errori di carattere, nonostante un perfetto segnale d'antenna, girare lentamente il cursore di R 2857 verso destra fino ad eliminare gli errori. Non girarlo oltre può riaumentare la presenza degli errori.

Durante la taratura è necessario selezionare ripetutamente la pagina 199, poiché solo così è possibile una nuova immissione della pagina ed una valutazione della soglia degli errori.





TP 611 29622-05
RC 611 -05



Ersatzteilliste (Auszug) · List of Spare-Parts (extract) · Lista ricambi (estratto)

Pos. No.	Fig. No.	Bestell-Nr. Part No./Ref. Nr. d'ordinazioni		Benennung	Description	Denominazione
				Steckkarten	Plug-in circuit boards	Schede
1		29504-101.01		Kabeltuner	Cable tuner	Tuner per tv cavo
2		29504-102.66		ZF-Verstärker 2 Ton	Amplifier IF	Amplificatore FI
5		29504-105.21		Farb/RGB	RGB/colour (CTI)	RGB/colore (CTI)
8		29504-108.04		Videotext (VT2805(.23	Videotext	Televideo
9		29504-108.92		VT-Steckerplatte (.22)	Dummy plug - VT	Piastra spina televideo
				Bedienungseinheit (29501-061.01)	Keyboard unit (29501-061.01)	Inita comandi (29501-061.01)
10		29624-415.01		Frontpl. m.Tasten	Front panel w. button	Piastra front..con tasti
12		29303-506.18		Snapfolie	Elastic foil	Foglia elastica
13		29503-925.41		Keyboardplatte	Keyboard PCB	Piastra tastiera
14		29305-017.01		LED-Platte kpl. (Mono/Ton 1/2 Anz.)	Plate LED cpl. (Mono/Sound)	Piastra LED cpl. (Mono/Audio)
				Mechanische Teile	Mechanical parts	Parti meccaniche
16		29304-070.55		Bildrohrplatte kpl.	Picture tube plate cpl.	Piastra cinescopio cpl.
16.1		29303-751.97		Bildrohrfassung	Picture tube socket	Zoccolo cinescopio
17		29700-320.01		Bausteinhalter	Module holder	Supporto modulare
18		29303-452.01		Netzsteckerplatte	Mains plug plate	Interruttore di spina piastra
19		29703-291.02		Netzschalter	Mains switch	Interruttore di rete
20		09621-113.02	4x	Sicherungshalter	Fuse holder	Portafusibile
21		29303-153.12	3x	Montageclip f. IC	Mounting clip for IC	Clip di montaggio
22		29303-153.01		Montageclip f. IC	Mounting clip for IC	Clip di montaggio
23		29303-153.02		Montageclip f. Trans.	Mounting clip f. trans.	Clip di montaggio p. trans.
24		29303-156.03		Isolierscheibe	Insulating washer	Rondella isolante
25		29303-393.01		Kopfhörerbuchse	EAR phone socket	Presa cuffia
26		29303-119.03		Euro-AV-Buchse	Euro-AV-socket	Presa-Euro-Scart
27		29500-503.05		Abdeckung (AV)	Cover (AV)	Copertura (AV)
28		29700-282.01		Kabelhalter	Cable clamp	Supporto cavo
29		29700-283.01		Kabelhalter	Cable clamp	Supporto cavo
30		29303-364.01		Tuner Aufnahme kpl.	Tuner holder	Supporto tuner
				Elektrische Teile	Electrical parts	Parti elettriche
K 501		8324-800-038		Kaskade BG 2077-642-1004 (!)	Cascade BG 2077-642-004 (!)	Moltiplicatore in cascate BG 2077-642-004 (!)
		72008-090.02		Fokusregler (!)	Focusing control (!)	Regolatore del fuoco (!)

Pos. No.	Fig. No.	Bestell-Nr. Part No. Réf. Nr. d'ordinazioni	Benennung Description Désignation Denominazione
TR665		29201-022.02	(R537=6,8 ohm/
oder			R647=18 ohm)
TR665		29201-024.01	(R537=10 ohm/
			R647=10 ohm)
F 808		8602-331-085	4,0 MG
L336		8140-526-451	
L337		8140-526-451	
L511		09246-850.21	
L521		09278-308.01	
L601		29500-811.97	
L601		29500-812.97	
L660		09278-308.07	
oder			
L660		09278-308.01	
L661		09278-314.01	
L676		8140-525-974	
L806		8140-526-327	
L1213		07202-370.97	
IC365		8305-302-241	TDA 1905
IC411		8305-338-170	TDA 8170
IC526		8305-338-140	TDA 8140
IC655		8305-333-640	TDA 3640
IC676		8305-205-765	7812/3%
IC686		8305-205-701	78 M 05
IC696		8305-205-765	7812/3%
IC811		8305-158-018	SDA 2010 A 025 (MOS)
IC881		8305-202-242	UAA 2022
IC1211		8305-334-052	TDA 4052
T111		8303-205-548	BC 548 B
T521		8302-260-510	BU 508 D
T661		8302-262-056	BUT 56 A
T736		8303-401-421	BF 421
T741		8303-401-422	BF 422
T741		8302-220-871	BF 871 S
T756		8303-401-421	BF 421
T761		8303-401-422	BF 422
T761		8302-220-871	BF 871 S
T776		8303-401-421	BF 421
T781		8303-401-422	BF 422
T781		8302-220-871	BF 871 S
T801		8303-207-548	BC 548 C
T859		8303-201-548	BC 548

Pos. No.	Fig. No.	Bestell-Nr. Part No. Réf. Nr. d'ordinazioni	Benennung Description Désignation Denominazione
T861		8303-200-548	BC 548
T882		8303-201-548	BC 548
T1204		8303-204-549	BC 549 B
D331		8309-702-705	BZX 83 C5 V6
D333		8309-201-103	BA 157
D411		8309-210-138	1 N 4936
D421		8309-210-401	1 N 4934
D422		8309-214-007	TD 041
D514		8309-204-268	BYV 16
D521		8309-701-052	BZX 85 C5 V6
D522		8309-214-010	TD 129
D551		8309-214-007	TD 041
D552		8309-214-007	TD 041
D553		8309-720-360	ZD 36 C
D621		8308-560-384	SKB 380/C 1500 L5B
D633		8309-201-005	BA 157
D635		8309-198-586	BAT 86
D636		8309-214-001	TD 482
D647		8309-201-103	BA 157
D662		8309-720-040	3,9 C 0,5 W
D663		8309-201-101	BA 159
D664		8309-201-101	BA 159
D666		8309-204-268	BYV 16
D671		8309-517-073	BYW 72
D691		8309-517-099	BYW 98-100
D707		8309-707-012	ZPD 4,7
D711		8309-201-005	BA 157
D730		8309-201-005	BA 157
D734		8309-215-045	1 N 4148
D754		8309-215-045	1 N 4148
D774		8309-215-045	1 N 4148
D781		8309-215-045	1 N 4148
D807		8309-198-041	BAT 41
D850		8309-214-010	TD 129
D856		8309-214-010	TD 129
D861		8309-214-010	TD 129
D873		8309-214-010	TD 129
D1201		8309-211-705	SFH 205 G
D801		8309-922-371	TLSO 5170
D802		8309-922-370	TLSG 5170
DP800		8309-931-232	HD 2101 G
C366		8415-166-147	1000 uF/25 V
C380		8452-996-147	1000 uF/25 V
C411		8415-166-270	1000 uF/50 V
C422		8563-820-021	0.1 uF/63 V
C433		8415-166-105	1000 uF/16 V
C462		8563-731-413	0,1 uF/250 V
C501		8563-731-610	0,01 uF/1250 V (!)

Pos. No.	Fig. No.	Bestell-Nr. Part No. Réf. Nr. d'ordinazioni	Benennung Description Désignation Denominazione
C511		8515-911-406	0,0125 uF/1200 V (!)
C512		8515-722-206	0,15 uF/160 V (!)
C513		8525-040-827	0,47 uF/250 V (!)
C513		8525-040-821	0,33 uF/250 V (!)
C514		8650-090-510	1000pF/ 1 KV
C517		8563-731-812	1,2 uF/200 V (!)
C536		8637-115-008	560 uF/2 KV (!)
C601		8599-990-025	0,15 uF/250 V (!)
C609		8563-732-425	0,1 uF/250 V (!)
C611		8660-097-234	1000 uF (!)
C613		8660-097-234	1000 uF (!)
C621		8650-090-510	1000pF/1 KV
C622		8650-090-510	1000pF/1 KV
C623		8650-090-510	1000pF/1 KV
C624		8650-090-510	1000pF/1 KV
C626		8443-306-051	150uF/385 V
C664		8515-911-051	1000pF/1200 V (!)
C667		8442-900-010	2,2 uF/450 V
C671		8650-090-510	1000pF/1KV
C691		8531-689-357	0,022uF/100 V (!)
C712		8531-573-021	0,1 uF/250 V (!)
C713		8531-573-022	0,1 uF/400 V (!)
R333		8700-229-025	10 Ohm NB (!)
R337		8705-269-299	12 Kohm
R341		8705-269-027	12 Ohm (!)
R366		8700-007-417	4,7 Ohm
R367		8700-229-023	8,2 Ohm NB (!)
R378		8700-229-001	1 Ohm NB (!)
R433		8790-047-140	2,2 Kohm
R436		8790-047-109	100 Ohm
R502		8700-007-521	100 Kohm
R514		8705-227-025	10 =hm/5% (!)
R516		8705-269-271	820 Ohm (!)
R517		8705-269-269	680 Ohm (!)
R521		8705-329-062	82 Ohm
R523		8730-018-979	1W/0,12 ohm
R535		8700-249-073	1 KOhm (!)
R536		8766-357-131	270 Kohm/5% (!)
R537		8705-269-025	10 Ohm (!)
oder			
R537		8705-269-021	6,8 ohm (!)

Pos. No.	Fig. No.	Bestell-Nr. Part No. Réf. Nr. d'ordinazioni	Benennung Description Désignation Denominazione
R609		8311-200-010	DUO-PTC
R621		8730-179-009	7W/2,2 Ohm
R623		8311-400-125	VDR VZA 275 (!)
R624		8718-250-158	3,6Mohm VDE (!)
R627		8718-250-014	4,7 Mohm VDE (!)
R637		8796-101-135	1 Kohm
R641		8705-369-521	100 Kohm
R647		8700-007-425	10 Ohm (!)
oder			
R647		8700-005-631	18 Ohm (!)
R663		8730-019-156	1W/0,47 Ohm
R664		8730-049-275	4W/1,2 Kohm
R667		8705-279-115	56 Kohm
R671		8700-248-984	0,22 Ohm NB (!)
R681		8700-248-984	0,22 Ohm NB (!)
R691		8700-011-245	68 Ohm
R713		8766-357-137	470 Kohm
R716		8766-357-145	1 Mohm
R717		8797-300-172	470 Kohm
R718		8766-357-123	120 Kohm
R733		8705-369-099	12 Kohm
R738		8705-227-013	3,3 Ohm
R751		8790-047-135	1 Kohm
R753		8705-369-099	12 Kohm
R771		8705-047-135	SK 10 1 Kohm
R773		8705-369-099	12 Kohm
R801		8766-357-169	10 Mohm
R802		8766-357-169	10 Mohm
Si 601		8315-617-006	2,5 A/T (!)
Si 624		8315-616-003	800 mA/T (!)

Serviceanleitung
Service manual
Manuale di servicio

72010-000.30

Bauteilhinweise
(!) Hinweis:
Bauelemente nach VDE-bzw. IEC Richtlinien. Im Ersatzfall nur Teile mit gleicher Spezifikation verwenden!
Notes on components (!) Cautions
Components to VDE or IEC quidelines. Only use components with the same specification for replacement!
(!) nota:
Componenti secondo le norme VDE risp. te iec. in caso di sostituzione impiegaresolo componenti con le stesse caratteristiche!

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